Home Computing WEEKLY

An Argus Specialist Publication

No. 67
June 19–25, 1984

45p

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Commodore show: first full report, including the new micros

Software reviews for: Commodore 64, Spectrum, Dragon, VIC-20, Oric and Atari

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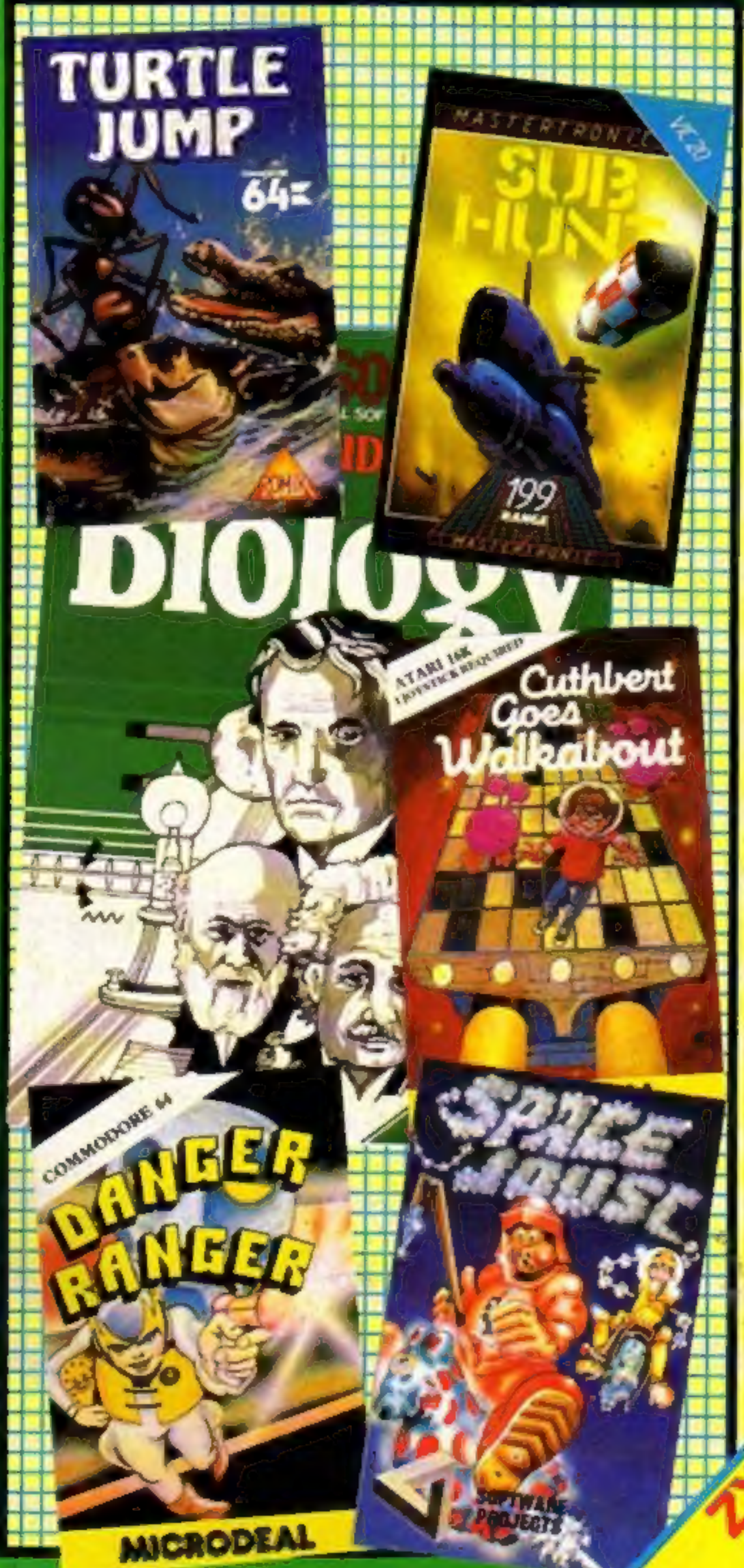

Battle of the giants

Sales of Commodore computers is claimed to have exceeded those of Sinclair in March, according to a new report.

Research Analysis Marketing came to this conclusion after carrying out a survey on 300 independent hardware and software retailers. However, they left out major high street outlets, such as Boots, W. H. Smith and Dixons, apparently because of the impossibility of obtaining sales figures from these sources.

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Don't put off buying a computer in the fear that the price will drop, said Commodore's UK boss as he launched two new micros.

Howard Stanworth, speaking at the fifth Commodore show, said the price war had now ground to a halt.

The company's two new computers share many of the same features, including a 32K ROM containing the operating system and BASIC, and a typewriter-style keyboard.

The Commodore 16, designed for beginners and sold in a starter pack for £129, has 16K of RAM and the Commodore Plus/4, priced at £249, has 64K of RAM.

Commodore also previewed two Z8000 16-bit computers.

• **Full show report — pages 5 and 6**

ZX User your free magazine is packed with reviews and listings

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Home Computing WEEKLY

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Will you risk sharks and mines for pearls and treasure?

HOME COMPUTING WEEKLY
BRITAIN'S BRIGHTEST

ZX USER

Another FREE 16-page magazine for owners of the Spectrum and the ZX81. Here's a sample of what's in this issue:

- three pages of Spectrum software reviews
- a great adventure to type in for the 48K Spectrum
- test yourself with our game for the 1K ZX81
- keep track of your software with out chart maker
- be an artist with a graphics utility to type in

There's a full contents list on page three of ZX User

● All the listings in Home Computing Weekly are tested for quality and checked for accuracy. You'll find programs for these micros in this issue

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Argus Specialist Publications Ltd.
No.1 Golden Square, London W1R 3AB. 01-437 0626

Home Computing Weekly is published on Tuesdays. Subscriptions and back issues: Infonet Ltd, 10-13 Times House, 179 Marlowes, Hemel Hempstead, Herts HP1 1BB. Trade distribution: Argus Press Sales and Distribution Ltd, 12-14 Paul Street, London EC2A 4JS. 01-247 8233. Printed by Alabaster Passmore & Sons, Ltd, of London and Maidstone, Kent. Design and origination: MM Design, Circus House, 26 Little Portland Street, London W1N 5AF

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Commodore 64 (joystick needed)	Cassette £7.95	Disk £9.95

KALAH

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Commodore 64	Cassette £7.95	Disk £9.95

LASER REFLEX

A new angle in alien zapping! Against a brilliant backdrop of stars, you must defend your asteroid base from wave after wave of swooping mutating starships. Your defence – a powerful laser deflected against a giant mirror. How long can you hold out before your defences crumble?

BBC Model B	Cassette £7.95
Electron	Cassette £7.95

WEST

A compulsive adventure game set in a ghost town in the Wild West. Your task – to flush out a gang of bank robbers and retrieve their loot – with only your trusty steed and your six-shooter to aid you!
Test the speed of your draw, your skill at cards, your powers of survival!
The first of a stunning series of adventure games from Allan Black, played in real-time.

Commodore 64	Cassette £9.95	Disk £12.95
BBC Model B (text only)	Cassette £7.95	
Electron (text only)	Cassette £7.95	

PANORAMA (H)

An outstanding graphics package for the Commodore 64. Features include: free-hand sketches, circles, ellipses, block move, copy and reverse, magnification, choice of cursor, joystick or key control. PLUS texture definition and texture and colour fill. PANORAMA (H) uses the full colour facilities of the Commodore 64. Pictures can include text and can be stored and incorporated into BASIC programs. The program is menu-driven and comes with a comprehensive illustrated instruction booklet. We use PANORAMA (H) to create all the graphics for our Commodore 64 games. Need we say more?

Commodore 64	Cassette £17.95	Disk £19.95

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ARCHIPELAGO	Cassette (£ 7.95)	£ 5.95
ARCHIPELAGO	Disk (£ 9.95)	£ 7.95
KALAH	Cassette (£ 7.95)	£ 5.95
KALAH	Disk (£ 9.95)	£ 7.95
WEST	Cassette (£ 9.95)	£ 7.95
WEST	Disk (£12.95)	£10.95
[redacted] B		
LASER REFLEX	Cassette (£ 7.95)	£ 5.95
WEST (text only)	Cassette (£ 7.95)	£ 5.95
ELECTRON		
LASER REFLEX	Cassette (£ 7.95)	£ 5.95
WEST (text only)	Cassette (£ 7.95)	£ 5.95

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No gloom as Commodore show new micros

What was new at the Commodore show. Paul Liptrot brings the first full report

There's no reason for gloom, despite the collapse of three computer makers, said Commodore's UK boss as he launched two new home computers.

Speaking at the fifth Commodore show, UK general manager Howard Stanworth said that, with 25 home micros and 300 for businesses on sale, it was easy to understand the confusion in people's minds.

But Commodore did not doubt the buoyancy of the market — the UK was a special case with computers in 15 per cent of homes.

He said: "What we have got to get over is that computers are fun, whether they are used for games or for more serious purposes.

"There's no reason to indulge in techno-fear. There's no need be be afraid of computers.

"People are said to feel that technology is a barrier between them and society. We know that is not true."

Mr Stanworth said **Compunet**, a new micro network using the phone system, would help. Previewed in HCW, Compunet will use a £99.99 Commodore modem — including a free 12-month subscription — to offer discount software, mailbox and, in the future, features like catalogue shopping and financial services.

Compunet, using 12 telephone numbers throughout the UK, is due to be available, first for Commodore 64 users, by the end of the year.

Mr Stanworth said that now the price war had ground to a halt there was no reason to put off buying a computer in the fear that the price was about to drop.

Commodore's two new home computers share many of the same features, including a 32K ROM containing the operating system and more than 100 BASIC keywords, including graphics and sound, and a typewriter-style keyboard, including a HELP key.

The major differences are in memory size and free software.

The **Commodore 16**, designed for beginners, is sold in a starter pack comprising computer, cassette unit, Introduction to BASIC part I and four games. It has 16K of RAM, of which 12K is available to BASIC.

The **Commodore Plus/4**, priced at £249, has 64K of RAM, 60K available to BASIC, with four software packages in ROM: word processing, a spreadsheet, database and business graphics.

These are the features they share:

Processor: 7501, running at .89-1.76 MHz

Display: 40 x 25 text, 320 x 200 pixels, including split screen. 121 colours: 15 colours, eight luminance levels, plus black

Sound: two tone generators or one tone and one white noise generator. Nine volume levels

Keyboard: 67 keys (66 on the 16 which excludes BREAK), including four cursour control and four function keys

Input/output: user port, serial port, cassette and disc drive port, two joystick ports, monitor, audio

There is a range of new peripherals, including disc drives and printers.

Commodore previewed two Z8000 16-bit computers: the **Commodore PC**, an IBM-compatible with 256K of RAM, twin 5¼in disc drives and 9in amber screen, and the Commodore Z, with Unix-like Coherent 7 operating system for multi-user and multi-tasking.

The **Commodore Z** also has very high resolution and uses icons — like the Apple Lisa — and windows.

Both are due in the UK in the first quarter of next year. Prices were not given, but the IBM-compatible at present is £1,000 and one rumour suggests that the Commodore Z will be priced at about $3,000 in America.

The show, with more than 100 stands, featured attractions like bodypopping, basketball stars, computer racing against Stirling Moss and TV personality Christopher Biggins, computer soccer with Radio Luxembourg and seminars.

Among the new products on show:

Romik previewed its graphics package for the Commodore 64, which is to offer a graphics editor and sprite handling. Priced at £14.99 it is due out in a week with versions for BBC, Electron, Amstrad and VIC-20 to come.

Micro Power has brought out its first Commodore 64 software — all converted and enhanced from BBC versions and including its Power Load, said to load 3½ times faster. The games, all at £6.95, are: Ghouls, Cybertron Mission and Felix in the Factory.

● The new Commodore 16, designed for beginners

● Commodore's new PLUS/4 and the 1541 disc drive

Commodore 3.5 BASIC keywords

AUTO line numbering
ABS
ATN
ASC
BACKUP disc to disc
CONTinue
CHAR text display
CIRCLE
CLOSE file
CLR erase variables
CMD
COLLECT
COLOR
COPY between dual discs
COSine
CRS
DELETE
DIRECTORY
DLOAD
DSAVE
DATA
DEF FN define function
DIMension
DO/LOOP/WHITE /UNTIL/EXIT
DRAW
DECimal value of hex string
END
EXP
ERR$
FOR ... TO ... STEP
FN returns user.defid function
FRE unused memory
GET keypress
GETKEY
GOSUB
GOTO
GRAPHIC selects mode
HEADER format disc
HELP displays error in inverse
HEX$
IF...THEN...ELSE
INPUT
INSTR
INTeger
JOY reads joystick
KEY define function key
LIST
LOAD
LET
LOCATE
LOG
LEFT$
LEN$
MONITOR for built-in m/c monitor
MID$
NEW
NEXT
ON
OPEN
PAINT
POKE
PRINT
PRINT USING
PUDEF allows redefinition of up to four chars in PRINT USING statement
PEEK
POS
PI
RENUMBER
RUN
READ
REM
RENAME file
RESTORE
RETURN
RCLR returns colour
RDOT pixel values
RGR current graphics mode
RLUM current luminance
RND
RIGHT$
SAVE
SCRATCH delete disc file
SCALE display modes
SCNCLR clears current screen
SOUND
SSHAPE/GSHAPE save, restore screen or area
STOP
SYS
SGN
SINE
SQR
STR$
SPC
TRAP errors
TRON
TROFF
TAN
TAB
USR
VERIFY
VOLume
VAL

● Micro Power launched a range of new 64 software

New releases from **Quicksilva** for the Commodore 64 and conversion of three popular Spectrum games from New Generation: Trashman, Escape and 3D Tunnel. All are £7.95.

Stonechip now has new software for its £19.95 light pen for the Commodore 64 and the VIC-20. A new cassette interface for both costs £14.95.

Rabbit showed its Death Star game for the Commodore 64 and **Abacus** previewed its CAD (computer-assisted design) package for the 64. It costs £35, including a light pen.

A range of new utility cartridges, at £25-£44, was shown by **Stack**, all for the 64, along with its 64 DTL compiler, costing £14.95 on cassette and £34.95 on disc.

New for the 64 from **Paramount** is Room Lord, a 64 arcade-adventure which involves tracking down heirlooms in a mansion.

Jeff Minter, of **Llamasoft**, said he was off to Peru soon to see the llamas. He was showing Metagalactic Llamas Battle at the Edge of Time, £5.50, which has been converted for the 64 from the VIC. And within a fortnight he plans to release, at £7.50, an Atari version of Attack of the Mutant Camels.

Bubble Bus promised a new game from Bumping Buggies author Richard Clark . . . after he has finished his O-levels. Called Cave Fighter, it will be out in late July for the 64 at £6.99. The company has a new war game, Strike Force, and has put together its three 64 utilities — word processing, label printer, poster printer and a display program — into one package called Quadrillion, costing £14.95 for the 64.

Richard Paul Jones, boss of **Interceptor**, showed Ian Gray's new title, Tales of the Arabian Nights, a £7 arcade game for the 64 which features speech. Where's My Bones? is also £7 and both are on disc too at £9. Interceptor also has a new assembler, Puls (£7).

Anirog launched a graphics package called Cas-Kit, at £14.95 for the 64. And there were two new games for the unexpanded VIC, Minitron, a robot chase game, and Max, similar to Anirog's Hexpert. Both cost £4.95.

Alice in Videoland, £12.95 on disc only, is at last available from **Audiogenic** after being promised at the last Commodore show. Henry Smithson explained that the U.S. company for whom the author was working ran into money trouble, so Audiogenic took over the game. The program, based on Lewis Carroll's book, is 90K long and loads in sections. Audiogenic also brought out Frantic Freddie and Pegasus, also at £12.95.

Melbourne House, which has several games and books lined up for autumn release, launched a 64 arcade game called Star Trooper (£5.95). At the end of June Horace Goes Ski-ing, already out for the 64 and Spectrum, is promised for the Dragon. One of the autumn products is a pre-school program called Animal Antics, in which children change around the heads, bodies and legs of animals.

Music Master is a new 64 utility from **Supersoft** at £17.95 on tape and £19.95 for the disc version, including a comprehensive manual. Supersoft also has Interdictor Pilot, a space flight simulator written by an RAF pilot, at the same prices and Graphics Designer (£9.95 tape, £11.95 disc) as well as three new 64 games, Pesky Painter, Star Command and Star Crash, all at £6.95.

A new fault finder for the 64 was released by **Practicorp**. Called 64 Doctor, it is a series of diagnostic tests designed to find the defect, whether it is in memory, keyboard, disc drive, joysticks, RS-232 port, video display, audio or printer. It costs £17.95 on tape and £19.95 on disc.

A newly-formed Texas company, **Personal Peripherals**, showed Super Sketch, a graphics tablet for the 64, VIC-20, TI-99/4A and Colecovision, and Super Stik, a joystick claimed to be more durable than its rivals. Both should soon be on sale in the UK. Dollar prices are $49.95 for Super Sketch, including cartridge software, and $9.95 and $24.95 for the two Super Stik models.

Mirrorsoft brought out three new titles for the 64: Go-Sprite, a sprite editor, Look Sharp, an observation trainer for children, and Count with Oliver, which is for four- to seven-year-olds. Look Sharp and Count with Oliver are also available for Spectrum.

● **Super Sketch, a new graphics tablet from America**

● **64 Doctor, a new diagnostic program from Practicorp**

● **Compunet in action. The black modem plugs into the back of the Commodore 64**

● **Super Stik, a new US import**

Where to find them

Compunet, ADP Network Services, Heathrow House, Bath Road, Hounslow, Middx TW5 9QP
Commodore, 675 Ajax Ave, Slough, Berks SL1 4BG
Romik, 272 Argyll Ave, Slough, Berks
Micro Power, Northwood Hse, North St, Leeds
Quicksilva, 13 Palmerston Rd, Southampton, Hants SO1 1LL
Stonechip, Brook Trading Estate, Deadbrook La, Aldershot Hants
Rabbit, Unit 11, Forward Dr, Wealdstone, Middx HA3 8NU
Abacus, 20 Rhosleigh Ave, Sharples Pk, Bolton BL1 6PP
Stack, 290-298 Derby Rd, Bootle, Merseyside
Paramount, 67 Bishopton La, Stockton on Tees, Cleveland TS18 1PU
Llamasoft, 49 Mount Pleasant, Tadley, Hants RG26 6BN
Bubble Bus, 87 High St, Tonbridge Kent
Interceptor, Lindon Hse, The Green, Tadley, Hants
Anirog, 29 West Hill, Dartford, Kent
Audiogenic, 39 Suttons Industrial Pk, London Rd, Reading, Berks
Melbourne House, Castle Yard Hse, Castle Yard, Richmond, Surrey
Practicorp, Goddard Rd, Whitehouse Industrial Estate, Ipswich, Suffolk IP1 5NP
Personal Peripherals, Merrick Pk, 930 North Beltline, Suite 120, Irving, Texas 75061, USA
Mirrorsoft, PO Box 50, Bromley, Kent BR2 9TT

From front page

John Baxter, marketing manager at Commodore, said: "We knew we were close behind Sinclair and now we have overtaken them.

"The Commodore provides better value for money than the Spectrum," he continued. "It has a better memory, proper keyboard and at least 20 per cent of the people who buy our computers are buying disc drives.

"It's the computer for the person who's serious about computing. The Spectrum isn't suitable for business or for word processing."

Mr Baxter also attributed the rise in Commodore sales to software. "There is a lot of good software available for the Commodore 64," he said.

"We will ship 60,000 Commodore 64s in June. Of these, 45,000 are orders, so that leaves only 15,000 to sell. Our back-up service is good. Admittedly after Christmas we did have problems, because we sold so many computers. Four per cent returns on 200,000 machines is still a lot of computers, so there were delays."

However, the problem is now resolved according to Mr Baxter. "Computers are returned to the manufacturers for a variety of reasons, and sometimes because the user doesn't yet know fully how to operate it. We now have a three-day turnaround: that means that from the time we receive a returned computer, within three days we will send it out again.

"We are very pleased at our sales figures."

However, Sinclair was sceptical about the claim that Commodore was ahead. A spokesman said: "The survey which Commodore is quoting is based on a very small selective sample of independent dealers, and isn't a comprehensive sample of the whole market."

He went on: "The AGB Home Audit report on sales of computers for the first quarter of this year, to the end of March, had Sinclair with 43 per cent of the market, and Commodore with 28 per cent, followed by Acorn a long way behind with 14 per cent. These findings are from fully independent research carried out right across the board, and have been confirmed by our own research.

When questioned about Commodore's shipment figures for June, the spokesman said: "Shipment figures aren't as meaningful as sales figures, and can in fact be very misleading. Some dealers may want to stockpile computers for the summer.

He concluded: "I am confident that Sinclair will remain ahead, with Commodore undisputedly in second place."

Boots' sales figures back up Sinclair's arguments. A senior executive said: "The 48K Spectrum is currently our best selling model by a significant margin. It has been considerably outperforming the Commodore 64 over the last couple of months."

First MSX software

Kuma claims to have released the first MSX program in Europe. ZEN Editor/Assembler/Disassembler is reported to be a complete system for generation and analysis of Z80 assembly language programs. Included in the price (£19.95) are a symbolic assembler and disassembler, text editor and machine code monitor. The complete source code of ZEN itself is supplied to every user.

Jon Day, sales manager of Kuma, said: "We are developing a comprehensive range of utility and entertainment software for the MSX. I think ZEN will be invaluable to users wishing to write and debug efficient assembly code programs."

Kuma, Unit 12, Horseshoe Park, Horseshoe Rd, Pangbourne, Berks RG8 7JW

Write your own programs

Home Filewriter is a combined intelligent database/program generator for the BBC with twin five-inch floppy discs. Available from Dynatech, the Filewriter is intended to enable novices to write their own intelligent database programs easily and quickly.

When using Filewriter, you simply type a record layout on screen and instruct the software program to translate the information into the appropriate computer code. The programs produced are self prompting and reject illegal inputs. They also inform you when an error has been made. Price: £39.95.

Dynatech, Rue du Commerce, Bouet, St Peter Port, Guernsey, CI

Spectrum add-on

Here's a new add-on for your Spectrum: the LoProfile keyboard, from Advanced Memory Systems. Featuring a full length space bar and a dedicated numeric keypad, the keyboard increases the number of keys from the Spectrum's 40 to 53. The sculptured keys are height adjusted and clearly labelled.

You place the PCB inside the keyboard housing and all connections use the ports at the rear of the unit. You don't need to adapt any of the connections, which of course makes the add-on much safer.

The LoProfile is available by mail order, price £49.95 plus £2.50 p&p, or from your regular dealer.

Advanced Memory Systems, Green Lane, Appleton, Warrington, Cheshire WA4 5NG

New BBC programs

Two new programs for the BBC: Crazy Caves, an adventure, and Labdis, a labelling disassembler, from Silversoft.

In Crazy Caves you must recover the crystal artichoke from the caverns of death and place it in the hands of an old man. Find other gems on your way and use them to barter for useful items.

Labdis is written by Jeremy San in 100 per cent machine code. It is compatible with all existing filing systems, and is menu driven.

Crazy Caves costs £7.95 for cassette and £9.95 for disc, while Labdis costs £9.95 and is available on cassette.

Silversoft, London Hse, 271-273 King St, London W6

Briefly

Don't curse if you've broken your joystick: Computer Supplies promises a fast joystick repair service — within 24 hours, in fact. Available for most models, including Atari, Commodore, Quickshot and Triga Command, the cost is £2.95 plus 50p p&p. You can also buy stronger replacement handle inserts for Commodore 1311 joysticks from Computer Supplies, at £2.75.

Computer Supplies, 146 Church Rd, Boston, Lincs PE21 0JX

Pop along to the Woodside Computer Event in Slough, on Thursday June 14 between 5 and 9 p.m. You will see demonstrations of hardware and software in education, work and the home. Slough has been suggested as the computer capital of the Thames Valley and Woodside will attempt to prove this.

Woodside County Secondary School, Norway Drive, Wexham, Slough, Berks SL2 5OP

●●●

If you're looking for a new programmable joystick interface, you will be interested in the new release from Custom Cables International. For the Spectrum, it is fully programmable and uses on-board RAM. Price: £15, or including joystick, £24.

Custom Cables International, Units 2,3 and 4, Shire Hill Ind Est, Saffron Walden, Essex CB11 3AQ

●●●

Here's help for solving treasure hunt books — Treasure Hunt Tool-Kit, from GW Components. Its aim is to help you solve anagrams, codes and ciphers. Available for the 48K Spectrum, it costs £4.95, and you get a £1 voucher against the cost of the puzzle book With Interest, by David Betts.

GW Components, 50 Oak Tree Lane, Mansfield, Notts NG18 3HL

●●●

Dillons book shop in London is moving into the computer field. Dillons has extended the lower ground floor computer department to include hardware and is now offering customers hands-on experience in up to eight of the most popular home computers. Also available are games and educational software, as well as computing books, of course. Dillons boasts well over 1,000 titles in its stock range.

Dillons, 1 Malet St, London WC1

●●●

Announcing a new dual-game pack for the BBC: Galaxy Edge from Magic. The Discovery is part 1 — a classic text-only quest to discover priceless technological artefacts from the first empire of earth. Part 2 is an adventure program, Escape from Solaris, which is for two players and two BBCs. Link them with a RS 423 lead, LOAD and play. You can also play on one micro using a split screen format. Price: £7.45.

Magic, Elmswell, Bury St Edmonds, Suffolk

Publish your master-pieces

If you write your own games, you will be interested in this: Times Books is publishing two books of computer puzzles and games, one for the CBM 64 and the other for the Spectrum, and will award two top prizes of an Epson HX-20 portable computer to the best programs submitted. Five runners-up could win a Maplin Electron-icsModem, and all published entries will win £10 W. H. Smith vouchers.

Submit your entries written in BASIC on a cassette if possible, together with a brief synopsis of the aims of the programs and a note on the level of difficulty. You will retain the copyright.

Times Book of Computer Puzzles and Games, c/o Newtech, 8 Forge Ct, Reading Rd, Yately, Camberley, Surrey GU17 7RX

A keyboard which is claimed to be virtually indestructible has been developed for the Atari 400 by Filesixty. Made of silicon rubber, it is a stick-down keyboard which is easy to apply. Price: £19.95.

Filesixty, 25 Chippenham Mews, London W9 2AN

● Rubber push-button keyboard from Filesixty

School's out

Looking for something to do in the long summer holidays? PGL is running two computer day camps for youngsters in the south. The camps will run from 23 July to 20 August at two schools in Croydon, and you can be picked up from one of 100 points in a 20-mile radius of central London.

At the start of the week you will be assessed and then you begin with a familiarisation programme, followed by exercises which have been geared to suit your particular level of experience. You'll work on the BBC and/or Electron.

Try your hand at word processing, design and data base handling and use synthesisers and disc drives. Each person has the use of a terminal. There are two age groups, 9-12 and 12-15 years.

You won't go boggle-eyed over the screen, either: half of the time you'll be able to choose from 40 different activities, including hovercrafting and mini-motorcycling.

For one week you'll pay £79 plus VAT and you get the security that PGL camps are ABTA-bonded. Get your brochure from your local travel agent or direct from PGL.

PGL Young Adventure, Station St, Ross-on-Wye, Herefordshire, HR9 7AH.

War of the Worlds

CRL has released a game based on HG Wells' War of the Worlds, for the 48K Spectrum. Written by Nigel Taylor, a 15-year-old schoolboy, it has you taking the role of the journalist travelling across the home counties to the Martian encampment.

Hazards are the Martian fighting machines, which confuse you so that you wander aimlessly, and the red weed, which will obstruct your passage and force you to find an alternative route.

You must visit six locations on successive days, in the right order, if you are to rescue Carrie from the Martian encampment on the seventh day. You also need to find food and drink and shelter.

You can find clues to the correct order of locations in Jeff Wayne's War of the Worlds double album. CRL says that versions for the CBM 64, Oric/Atmos, BBC, Electron and MSX are also in the pipeline.

CRL, CRL Hse, 9 Kings Yd, Carpenter's Rd, London E15 2HD

Scare off burglars

Use your Commodore 64 or VIC-20 to protect your home from unwanted intruders. The sentinel system from Micro-Security uses an I/O interface unit which connects to the user port of your micro.

A complete DIY kit containing I/O interface unit, control program on tape or diskette, external alarm bell and waterproof housing, internal buzzer, panic switch, 10 sets of magnetic reed contacts, cabling, cable clips and installation and operation instructions, sells for £99, p&p £5 extra.

Interface unit and software alone costs £59.95, p&p £2.50 extra.

Micro-Security, PO Box 18, Havant, Hants PO9 3LB

Where am I?

Lloyds Bank is running a project to support local archaeological societies by donating modest sums of money to help with purchase of equipment. What's that got to do with computing, you may ask?

Archaeologist Paul Brown has written a program to help with a rescue dig by the Maldon archaeological group. His program, Pitcalc, won him £200 from Lloyds. The problem Mr Brown tried to overcome was where he was during a dig. The gravel face of the pit he was working on was constantly moving so he never had time to evaluate his discoveries.

Pitcalc enables him to pinpoint his exact location. He takes three compass readings and feeds them into the computer. The Spectrum does the hard work for him. If you're a computer buff as well as being an archaeology freak, you can obtain copies of the cassette by sending £5 to

Paul Brown, 152 Fambridge Rd, Maldon, Essex.

Switch on to micro show

If you live in Scotland, tune in to Grampian TV's new series Bits 'n' Pieces. It's a six-week series which will begin on Saturday June 9 at 10 a.m. Presented by local DJ Bobby Hain, the series will feature demonstrations and reviews of software. A wide variety of machines will be used and different computers will share the limelight each week.

Also planned are interviews with personalities of the industry. Dr Micro will be on hand to offer advice on your programming problems and Bobby Hain will review hardware.

The first in the series features games reviews for CBM 64, BBC B and Spectrum computers. The prototype Enterprise 64 computer will be making its TV debut and Matthew Smith, author of Manic Miner and Jet Set Willy will be talking about himself.

Five more for the 64

Games for the Commodore 64 — including a look at two of the new low-priced titles from Mastertronic

Colossus Chess 2.0 £9.99

CDS Micro Systems, 10 Westfield Close, Tickhill, Doncaster

This program gives a rather nice high resolution view of a chess board. Your moves can be entered by using a cursor or the standard co-ordinate convention; both are easy to use.

The program offers a second screen which displays the technical information relating to the game. This includes the moves so far, suggested best moves, positional and material state of each player and the details of the depth of search. The level of play is determined by the time you allow the machine to search for its move. This is variable in second increments from 0 to one hour.

There are several other modes of play. I found the program played a strong game although at very easy levels it did make some silly moves.

The real strength of the game is the huge range of options. You can set up any position, save or reload an old game and backstep to make an incorrect move. You can get the machine to replay a game, and this option linked with a command which shows all legal moves for any given piece, acts as a simple aid for beginners. A.W.

instructions	95%
ease of use	95%
graphics	85%
value for money	100%

★ ★ ★ ★ ★

Pub Quest £5.95

Dream, PO Box 64, Basingstoke, Hants RG21 2LB

This must be just about the ultimate in witty adventures. The object is to find your money, which is in the sewers, so you may pay off your bill at the Chequered Flag Inn. To make things a little harder you should bear in mind that you are drunk and will have slight difficulties in such simple tasks such as crossing the road.

Special attention should be paid to the descriptions which may hold clues to possible traps in the game. Be prepared for the program to play some jokes on you. So as not to spoil the game I will not say anything else except that you get what you deserve.

There are no graphics to accompany the text. This is not much of a drawback because the descriptions are so accurate and precise that you soon build up an image of where you are.

Loading takes about 18 minutes. This may sound a long time but the wait is worth it. You could always give your off licence a visit while the program loads — just to get into the swing of things. K.I.

instructions	60%
ease of use	85%
display	70%
value for money	95%

★ ★ ★ ★ ★

Space Pilot £7.95

Anirog, 29 West Hill, Dartford, Kent

This game will appeal to the more adventurous players who have always wanted to rule the sky and kill anything that moves.

The object is to shoot about 56 enemy aircraft, collect the parachutists and finally blow up the zeppelin. Completing this will take you onto another level of enemy aircraft. There are five levels in all, each one containing different types of aircraft from different periods in the history of aviation.

The scenario is a screen of clouds moving left and right with your enemies moving inwards from the sides. You stay in the centre and everything else moves according to how you push the joystick.

The graphics are slightly chunky and lack definition in places. This is quite acceptable though — good use is made of colour which accounts for a drop in resolution.

I found that when playing any minor faults in the graphics were made up by the action.

Space Pilot is a good game which loads well — it only took 80 seconds. A joystick is preferable to the keyboard for playing. K.I.

instructions	30%
playability	80%
graphics	85%
value for money	85%

★ ★ ★ ★ ★

Squirm £1.99

Mastertronic, 48 George St, London W1

This is a variation on the classic ghost maze game. In this case a Queen squirm travels round the maze laying eggs and you score points by following the trail picking them up. Two guard squirms may beat you to it and you have to avoid them.

If you manage to collect 255 eggs you have a bonus run. During this run you are safe from attack but you cannot double back. After a bonus run you go up a level and the fun begins again.

When you eventually run out of lives the high scoreboard is displayed. If you are among the top five highest scorers your score is displayed and you can enter your name against it.

The cassette card gives a good indication of how to play the game and on loading the game a screen repeats the instructions. The screen graphics and colours have been carefully chosen to keep the action clear.

I liked this game. The pace was just fast enough to achieve a creditable score which might be beaten next time round. Not a bad game and slightly different. L.C.

instructions	60%
playability	70%
graphics	70%
value for money	60%

★ ★ ★

Jungle Story £1.99

Mastertronic, 48 George St, London W1

An avoid-and-shoot game with a difference. The scene is the jungle. Snakes slither and elephants charge. There's no stopping them and you have to avoid them. Leopards run across the screen but you can shoot these. While you're doing this you have to watch out for arrows shot out of the jungle by savages and also avoid coconut bombs dropped from the trees by monkeys.

The situation is loosely based on Jungle Book. You have to get Mowgli through this unfriendly jungle to a village to collect a pot of fire. With this you can confront Khan the Tiger.

The plot sounds appealing but the game is not so good. The graphics are fairly crude with all the action in dead straight lines. The game is made difficult by simply having so many things to avoid on the screen at once that there is no path past them. Consequently I never got to the village and in fact lost interest after a few goes.

The cassette card gives no details of how to play the game or whether a joystick can be used. These details come up on a preliminary screen when the program is loaded. This is not a game I can recommend although the idea is quite good. L.C.

instructions	40%
playability	50%
graphics	60%
value for money	50%

★ ★

CHARTBUSTERS

BRITAIN'S SOFTWARE CHARTS

by the ASP Market Research Group

ARCADE

1	Jack and The Beanstalk	Thor	Spectrum (2)
2	Jet Set Willy	Software Projects	Spectrum (1)
3	Psytron	Beyond	Spectrum (4)
4	Super Pipeline	Task Set	CBM 64 (-)
5	Duck Shoot	Master Tronics	VIC-20 (-)
6	Crazy Kong	Interceptor Micro	VIC-20 (-)
7	Beach-Head	US Gold	CBM 64 (9)
8	1994	Vision	CBM 64 (-)
9	Atic Atak	Ultimate	Spectrum (-)
10	Space Pilot	Anirog	CBM 64 (7)

NON-ARCADE

1	Mugsy	Melbourne House	Spectrum (1)
2	Flight Path 737	Anirog	CBM 64 (2)
3	Fall of Rome	APS	Spectrum (3)
4	Snooker	Visions	CBM 64 (-)
5	Test Match	CRL	Spectrum (4)
6	Twin Kingdom Valley	Bug Byte	CBM 64 (5)
7	Golf	Abrasco	Spectrum (8)
8	Solo Flight	US Gold	CBM 64 (-)
9	The Inferno	Richard Shepherd	Spectrum (-)
10	Colossus Chess	CDS	CBM 64 (10)

Compiled with the assistance of Britain's leading software distributors, including: Pinnacle, SDL, PCE, Websters, PCS and Software Centre.

SPECTRUM

1	Jack and the Beanstalk	Thor (2)
2	Jet Set Willy	Software Projects (1)
3	Psytron	Beyond (4)
4	Blue Thunder	Foundry Systems (3)
5	Fred	Quicksilva (-)
6	Tranquilizer	New Generation (5)
7	Chequered Flag	Psion (2)
8	Alchemist	Imagine (6)
9	Atic Atac	Ultimate (-)
10	Wheelie	Microsphere (-)

COMMODORE 64

1	Manic Miner	Software Projects (1)
2	Blue Thunder	Mastertronic (6)
3	Black Hawk	Thorn EMI (7)
4	Space Pilot	Anirog (2)
5	Space Walk	Mastertronic (10)
6	Arena 3000	Microdeal (8)
7	City Attak	K-tel (7)
8	Cosmic Convoy	Taskset (9)
9	Road Toad	Audiogenic (9)
10	Harrier Attack	CBM (-)

DRAGON 32

1	Cuckie Egg	A & F (-)
2	Cuthbert in Space	Microdeal (4)
3	Kriegspiel	Beyond (1)
4	Eightball	Microdeal (3)
5	Hungry Horace	Melbourne House (-)
6	Ugh!	Softek (-)
7	Up Periscope	Beyond (5)
8	Skramble	Microdeal (7)
9	The King	Microdeal (-)
10	Pedro	Imagine (-)

Compiled by W. H. Smith and Websters. Figures in brackets are last week's positions.

VIC-20

1	Duck Shoot	Mastertronic (1)
2	Crazy Kong	Interceptor Micro (5)
3	Tank Commander	Thorn EMI (2)
4	Chariot Race	Micro Antics (3)
5	Computer War	Thorn EMI (4)
6	Sub Commander	Thorn EMI (-)
7	Jet Pac	Ultimate (8)
8	Gridrunner	Llamasoft (6)
9	Mutant Herd	Thorn EMI (7)
10	Tower of Evil	Thorn EMI (-)

BBC

1	Aviator	Acornsoft (1)
2	JCB Digger	Acornsoft (2)
3	Over-Drive	Superior (5)
4	Battle Tank	Superior (4)
5	O Man	MRM (-)
6	Percy Penguin	Superior (3)
7	O Man's Brother	MRM (7)
8	3D Munchy	MRM (-)
9	Spitfire Command	Superior (6)
10	Killer Gorilla	Precision Micro (-)

ZX81

1	Krazy Kong	PSS (4)
2	Krypton Ordeal	Novus (1)
3	Web Dimension	Novus (2)
4	Planet Raider	Novus (3)
5	Asteroids	Quicksilva (8)
6	Defender	Quicksilva (7)
7	Black Crystal	Carnell (-)
8	Flight Simulation	Sinclair (5)
9	Alien Raid	CRL (6)
10	Chess 1K	Sinclair (7)

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Please charge my Access / Visa No. (delete as appropriate) the sum of £

HCW 19/6

RUNESOFT PRESENT

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Popular Computing Weekly (15:04:84) Paradox looks from a quick play and the complex maps I've been sent explaining it, like one of the most complicated adventures ever designed addiction is probably ensured

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RUNESOFT artwork by Nick Bibby

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Bob Maret
£1.99

Mastronic, 48 George St, London W1

In this game your mission is to guide your submarine and pick up frogmen as they come into view on the screen. Meanwhile enemy aircraft fly overhead dropping depth charges. The sea is populated by submarine-eating fish which you must avoid or torpedo.

When you have rescued several frogmen you go up a level and the game becomes more difficult. At the top of the screen are your score, highest score and the number of remaining lives. You have three lives.

After a while I found I could frequently get up to the next level with all my lives intact. However the game didn't change. I would have prefered a different sea monster, giant squids or crabs, for instance.

I found the game rather tame after the initial interest had worn off. The screen graphics are not outstanding and the game is short on instructions. The inlay card gives no instructions at all. Only when you load the program do you get two screens of instructions. The inlay card should at least say whether joysticks can be used. All in all I was not terribly impressed by this offering. L.C.

instructions 40%
playability 50%
graphics 50%
value for money 40%

★-★

Duck Shoot
£1.99

Mastertronic, 48 George St, London W1

This is a shooting gallery-type of game. There are three conveyors moving across the screen on which are ducks, rabbits, owls, numbers and letters. Above the conveyors is a row of spinning plates.

You have limited bullets and limited shooting-time. In addition to scoring points for hitting the items on the conveyor you need to hit all eight spinning plates to go up a level. This is complicated by a duck which flies across the top of the screen. If you don't hit this duck all the spinning plates are restored and you start again.

The ducks on the conveyor are apt to fly down and eat your bullets. If you run out of time before you run out of bullets the conveyor speeds up. Bonus points can be obtained if you hit the letters bonus in that order on the conveyor. I never got beyond it as I was too busy trying to stop the ducks eating my bullets.

Despite all the action I found the game did not hold my interest for long, partly because there were too many bullet-eating ducks. L.C.

instructions 70%
playability 50%
graphics 60%
value for money 50%

★-★

Quick on the draw

All these games need a quick wrist — lasers and rifles shoot down Cyborgs, Moronians and ducks. Score bullseye and hit the mark every time

Cuthbert in Space

Microdeal, 41 Truro Rd, St Austell, Cornwall PL25 5JE

Cuthbert is in space this time. You have to fly around the screen picking up fuel pods. When you have cleared the screen you can collect the loot. Simple? No, to make the game harder there are Moronians flying across the screen. If you should collide with one you lose one of your four lives. To help you overcome the Moronians you are equipped with a laser. From time to time you will be sent for repairs to your space craft, this is spoiled since it is done in text mode.

The game has 12 levels increasing in difficulty, with more Moronians flying across the screen.

Sound and the graphics just manage the good rating in my books. However the graphics are fast and can be distracting.

The instructions have been laid out very well, more so than the game. You are told that by using keys J or K you can change your control from joystick to keys. They have got that wrong somewhere since you can change without using the keys. Also the restore key is supposed to restart the game, instead it made a mess of the screen. G.J.

instructions 90%
playability 55%
graphics 60%
value for money 45%

★-★-★

Attack on Windscale
£9.99

Phoenix, Spangles Hse, 116 Marsh Rd, Pinner, Middx

This is one of a series of arcade adventure games which are starting to appear on the software market. You play the arcade game and you are given clues to help in the adventure game.

The arcade game is a fast shoot-'em-down version of space invaders. One enemy flies across the screen and one moves down. I found it too hard after level 1 because the speed gets too fast.

When or if you have completed all four levels you may move on to the adventure game. The problem is that if you cannot master the arcade game then you are unable to start the adventure.

I found the adventure slightly tedious — it is menu-driven. This stops you from wasting time by entering commands which will not work but you also find that you miss the excitement and versatility of "let's try it and see".

Overall I have not managed to do wonders with the game due to the time scale needed to get through it. I would recommend it to anyone who does not like 'trial and error' adventures and has a friend who is good at fast arcade games. K.F.

instructions 30%
playability 60%
graphics 50%
value for money 60%

★-★-★

Turtle Jump

Romik, 272 Argyll Ave, Slough, Berks

The screen setting is a map of a group of Caribbean islands with turtles swimming between them. Your objective is to get from one island to another, collecting treasure points.

You can jump short distances and travel on anything solid, like the backs of the turtles. However, if a crocodile appears all the turtles dive. There are a few logs and small volcanic islands which sporadically appear.

Food grows on the islands and is used to top up your energy level. There is an energy barometer displayed on the screen to inform you when it's time for a forage. On one island there is a treasure chest. You must recover the treasure by jumping in while the lid is open and getting out again before it closes. The longer you're in the chest the more treasure you collect. Collected treasure must be taken back to your home base.

This is quite a nice game with an original theme. I found it difficult to keep on the backs of the turtles and consequently tended to end up on one island far from the treasure but feeding myself silly. I can see the attractions of opting out and living on a desert island.

There are no game control instructions and it took a while to discover how to jump. But all in all it is a nicely written average game, whose strength is the unusual plot. I. C.

instructions 70%
playability 60%
graphics 70%
value for money 70%

★-★-★

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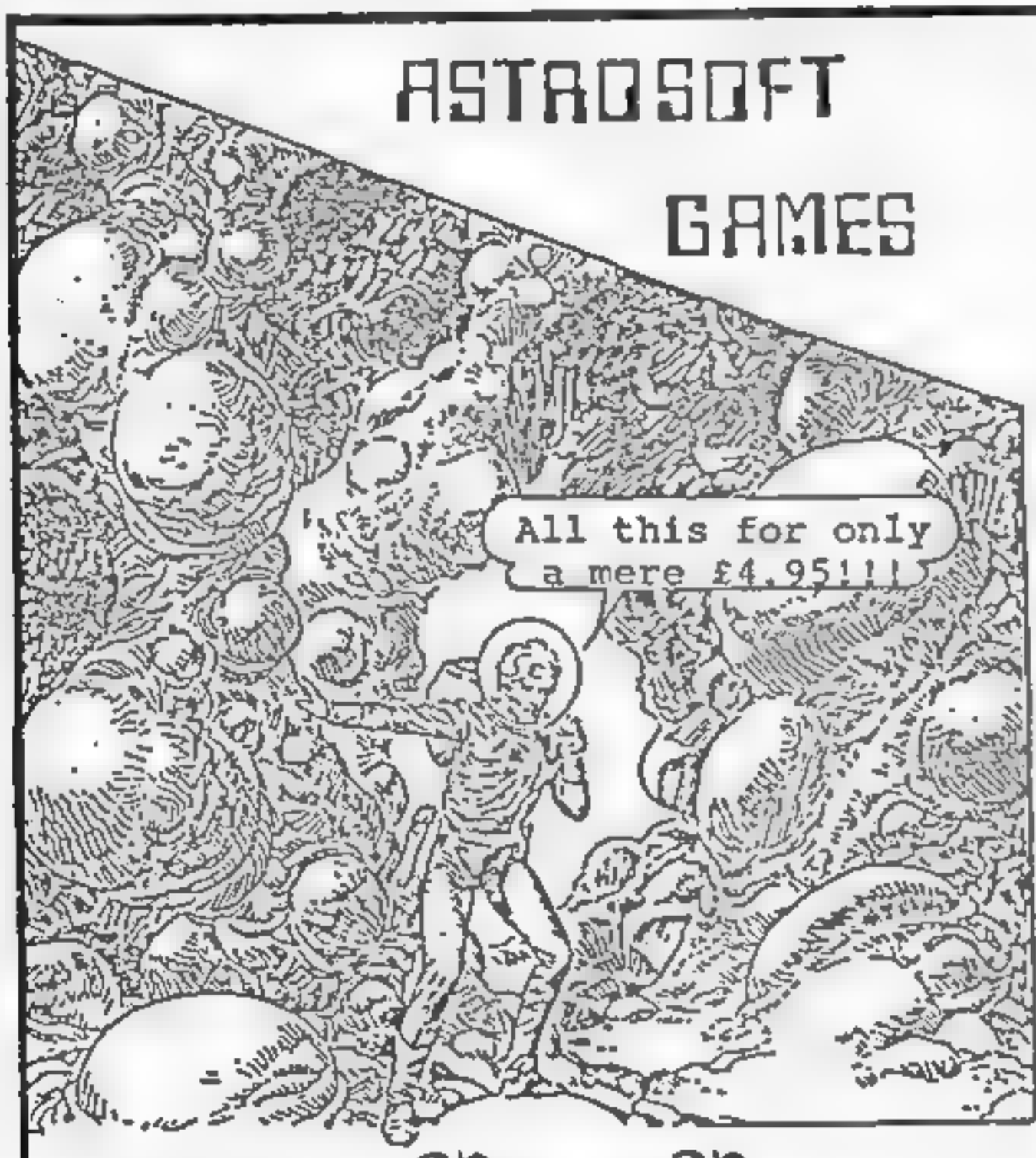

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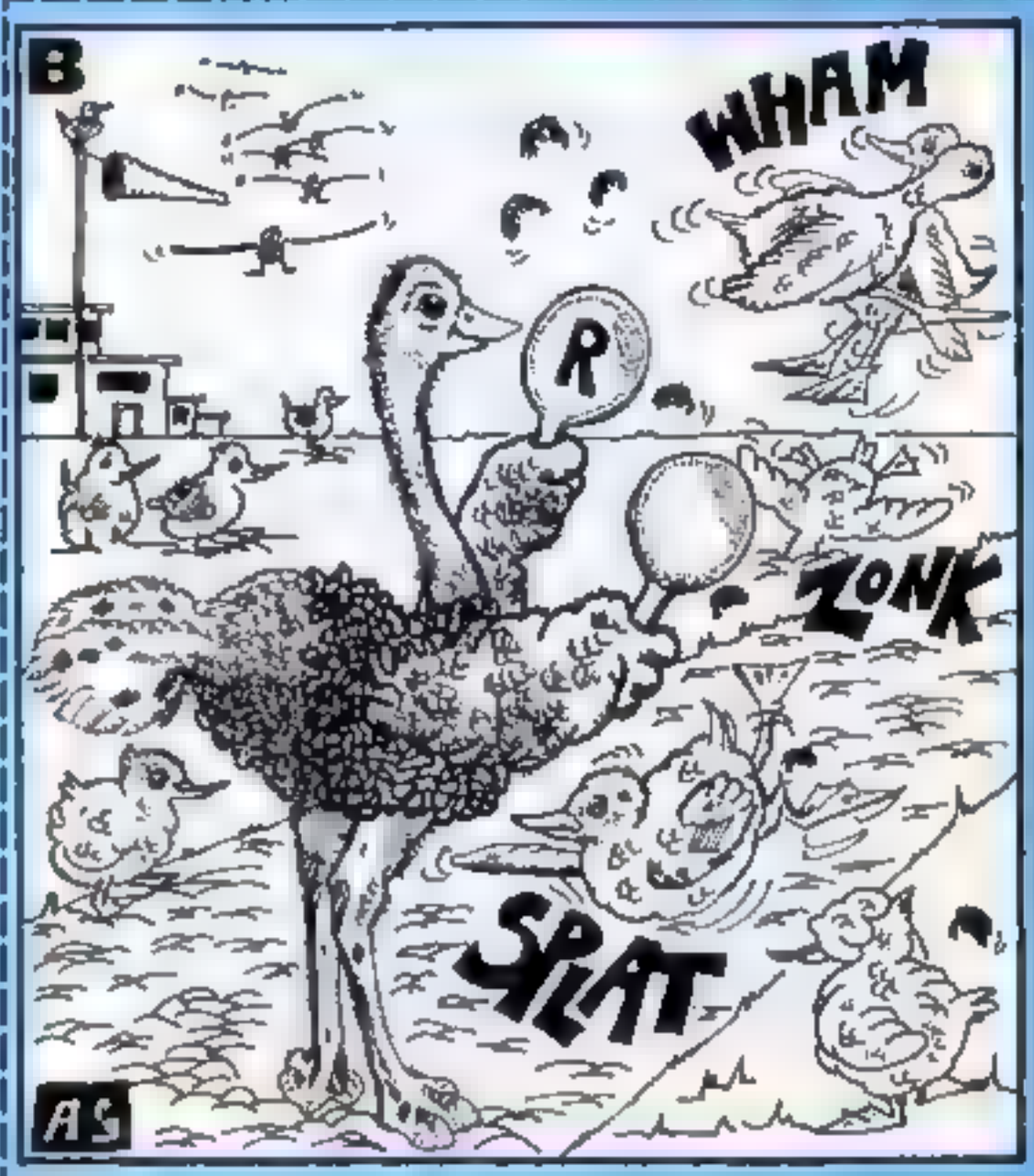

Hewson Consultants Competition

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Number of differences found _____

Complete clearly and fully — if you are a winner this will act as a label for your prize. Post to Hewson Consultants Competition, Home Computing Weekly, No 1 Golden Square, London W1R 3AB. Closing date: first post, Friday July 6, 1984. Don't forget to write the number of differences on the back of your envelope.

Ace pilots soar up and away with Hewson Consultants

If your one ambition in life is to fly, this will set you on the right tracks.

Hewson Consultants is giving away two great games for the Spectrum, Nightflite II and Heathrow Air Traffic Control, to 100 winners of this week's spot the difference contest. As each game costs £7.95, the total value of prizes is more than £1,500!

If you want to earn your wings, practise flying on Nightflite II. Your competence and judgement will be tested to the full in this realistic game. A shifting perspective gives you a lifelike view of runway lights and surrounding houses as you come in to land.

To help you chart your progress, a personal debrief is displayed on screen after each flight. There are two autopilot modes and a training mode to help you find your feet gradually, and soon you'll be advancing to the top of six levels of difficulty.

Alternatively, if you're scared of heights or prefer to be in control of those at the controls, play Heathrow ATC. The highest rate of nervous breakdowns is reputed to occur in ATCs, so if you want to learn the profession without suffering the side-effects, practise at home.

Again, the realism is a star feature. Your display shows a constant radar sweep and you guide down four types of aircraft in one of seven levels of play. If you are a beginner, you can warm up on the demonstration exercise. Radio failure, loss of a runway and rogue aircraft make the game more tense and exciting — but remember, it's only a game!

Both these simulator games were written by an expert in all three fields — an ATC at Heathrow who's an accomplished computer programmer and flies planes in his spare time! Mike Male is the man of many talents and has written these programs from his own experience of air traffic control and flying.

As well as simulators, Hewson Consultants also has adventures. Quest is the best-known and Fantasia Diamond the newest release — and arcade games like 3D Seiddab (also for the Dragon) and Lunattack. Future plans include software for the MSX and a 3D adventure/arcade game, with the emphasis on the adventure.

Heathrow ATC is also available on the BBC, Electron and CBM 64.

Take control and enter this week's spot the difference — and win not one but two exciting games, which will give you hours of pleasure and enjoyment — if not relaxation!

How to enter

Study the two cartoons — there are a number of differences between them. Circle the differences on cartoon B and seal the cartoon and coupon in an envelope. Write clearly the number of differences you found on the back of the envelope.

Post your entry to Hewson Consultants Competition, Home Computing Weekly, No. 1, Golden Square, London W1R 3AB. Entries close at first post on Friday July 6, 1984.

You may enter as many times as you wish, but each entry must be on an official coupon — not a copy — and sealed in a separate envelope.

Important! please follow carefully the guidelines on entering — incomplete coupons and entries in an envelope with no number on the back cannot be considered. If you are a winner, the coupon will be used as a label to send your prize so clear writing is essential.

The winners will be the senders of the first 100 correct entries opened at random after the closing date.

The prizes will arrive from Hewson Consultants within 28 days of the publication of the issue containing the names of the winners, or earlier.

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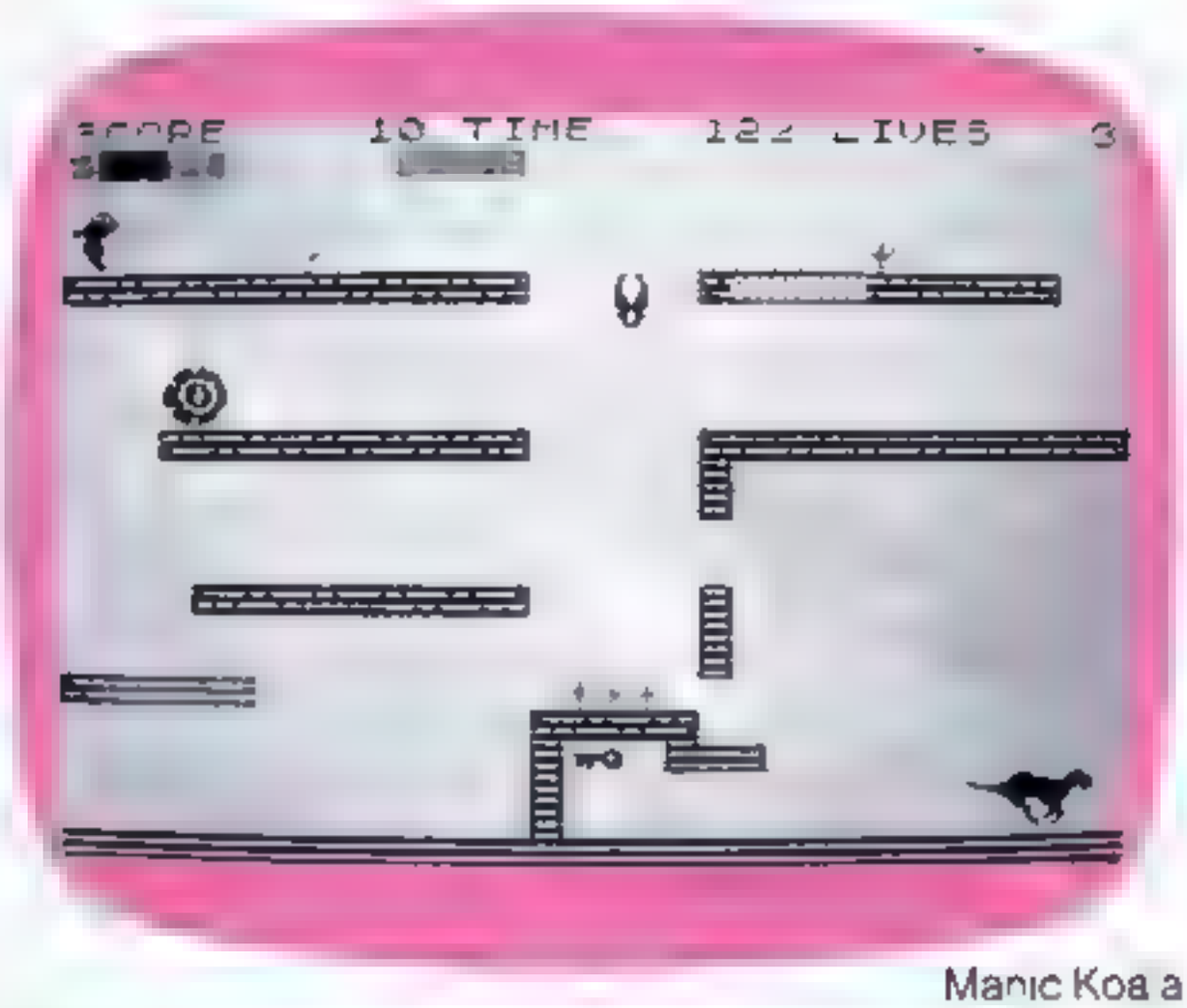

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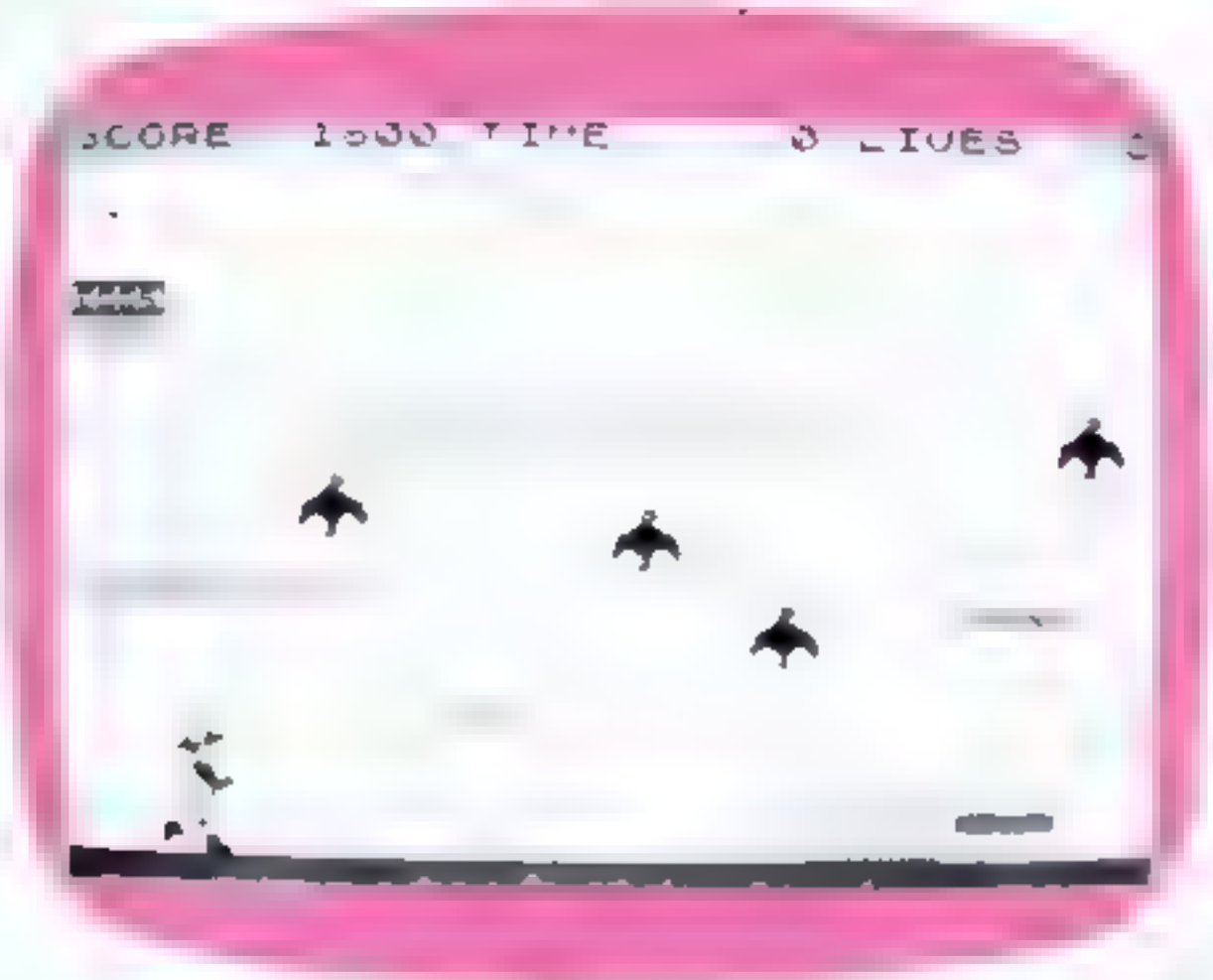

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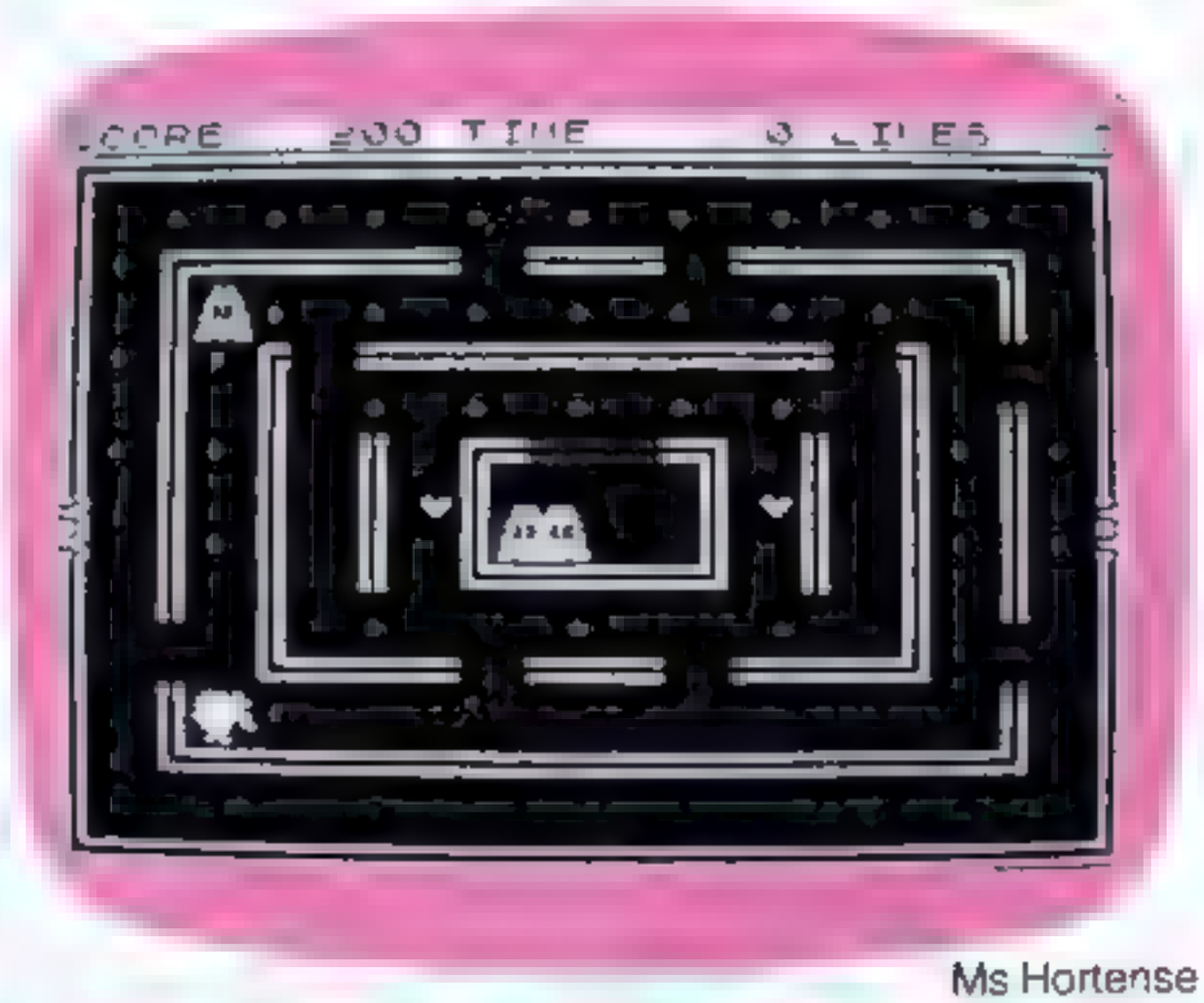

Ms Hortense

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All games above were designed and created using 48K Spectrum H U R G

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All versions of The Hobbit are identical with regard to the adventure program Due to memory limitations, BBC cassette version does not include graphics

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[HCW3/6

Action-packed arcade games

Fast-moving fun-filled games require quick thought and reactions. Our panel of reviewers have done a trial run — here's their verdict

Nifty Lifty
32K BBC £5.95

Visions, 1 Felgate Mews, Studland St, London W6 9JT

With two controls and very quick reflexes you must guide yourself up through layers of shop floors You can move left and right, and are constantly threatened by vertically moving lifts.

The object is to work your way up the screen by running across each shop floor, avoiding the menacing guard-controlled lifts. At the end of each shop floor is an upward pointing arrow and by running into this you automatically climb the stairs Each screen consists of about 10 floors, and it's not long before the lifts start to crowd you out of the game

The deafening music is immediately recognisable as the theme music from The Sting. The problem is that once you have made the sound option your choice is irrevsible

Overall I thought the graphics were great, and I found the smooth movement a pleasure to watch. A fantastic game

After playing I am having second thoughts about who produces quality software for the BBC, I'm sure Visions will soon get its name associated with some of the finest software made for the BBC

M.B.

instructions	70%
playability	100%
graphics	100%
[illegible]	[illegible]

★★★★★

[illegible]
[illegible]

Visions, 1 Felgate Mews, Studland St, London W6 9JT

This is similar to the good old arcade game Pengo. If you have never heard of this game here is a brief description. You are a cute little penguin, locked in a freezer with those horrid, lethal snow bees. Your only hope of survival is by being a vicious little penguin and kicking ice blocks at any of the three snow bees. You can also electrify the perimeter of the freezer so that any snow bees standing close to the wall get a momentary shock, which will turn into a nasty shock if you finish him off by trampling over [illegible]

Visions has produced a faithful version of the arcade original, with many extra features, such as defining your own keys, sound on and off options, and the practice mode, which allows you to play the game without dying

This must be the best version of Pengo currently available for the BBC micro. The added extras and features give this game a really professional finish.

M.B.

instructions	90%
playability	95%
graphics	100%
value for money	100%

★★★★★

[illegible]
Atari £8

Microdeal, 41 Truro Rd, St Austell, Cornwall PL25 5JE

A novel idea sees Willy the penguin protecting himself and his home from mutant seasons. Willy's house is constructed of blocks of ice which he can use when under siege from the sea-lions. By kicking an ice block in the direction of an advancing sealion the intruder is sent flying and crushed between ice blocks

Willy must run up as high a score as possible by walking over the ice blocks, killing all the sealions in the process, and position three magic ice blocks in a straight line. Then you advance to level two. Here the sealions move a little faster until by level five the game is almost impossible to play as the sealions appear much more and travel around the ice blocks at high speed

The graphics are excellent, particularly Willy who is as similar to a penguin as he could be. A pause facility is also included which helps when an irritating telephone call threatens to call a halt to a potential high score. This is definitely a fast action game with a lot of fun!

D.W.L.

instructions	60%
playability	80%
graphics	85%
value for money	80%

★★★★

[illegible]
[illegible] £8

Microdeal, 41 Truro Rd, St Austell, Cornwall, PL25 5JE

The object of this game is to clear as many boards as possible by running your beamer over blocks. Movement is by joystick and your speed depends on whether a block is in the direction you are travelling. If there is no block you move slowly. If there is at least one block then you move along an energy beam at twice the normal speed

The blocks are set out in different designs. There are two opponents. A yellow spinning ring moves about at random and there are chasers which follow you around. Hitting or being hit by either of these causes the loss of one of your three lives. The ring can change the blocks to energizers and if you manage to hit one of these your scores are [illegible] vary greatly depending on the distance travelled. Bonuses are awarded for each enervizer hit The top five scores are displayed after each game ends

The program loaded eventually, though it took a long time. The screen display is good. I thoroughly enjoyed this game

[illegible]

instructions	[illegible]
playability	[illegible]
graphics	[illegible]
[illegible]	[illegible]

★★★★

Gravitor
Oric 1/ Atmos 48K
£7.50

Severn, 15 High St, Tydney, Gloucs GL15 5DP

In Gravitor you control a small spaceship which must be guided from its home base to one of four satellite systems. Here it must collect fuel from four dumps before entering the third stage where more fuel must be stolen. During your mission you are fired at from enemy bunkers and must avoid guarding UFO. However gravity is probably the major problem since you are continually falling back to the planet surface

Control is provided by forward thrust and clockwise or anticlockwise rotation. The secret revolves round how well you can control your spacecraft. I think this is more for the experienced player, as novices could become very frustrated

The graphics are simple but clear, which is probably best since it is important not to let your concentration wander too far. Sound effects are good and probably help in controlling your ship. As you progress, a further hazard is that you have a limited amount of fuel

If you have tried Super Meteors or similar games, then Gravitor is best described as the graduates' game. A challenge for those brave enough to accept it

P.S.W.

[illegible]	80%
[illegible]	85%
graphics	75%
value for money	75%

★★★★

ONE MAN'S VIEW

Leave it to experts

I can't resist any longer, I've been wanting to write one of these columns for ages but only today have I felt that not only do I have a strong view, but I want the rest of the world (well, the HCW world!) to hear it

I am a man of many hats (or chairs, if you see what I mean). Besides my teaching post, I also write for this magazine, chair a computer club, work in a computer shop, write software for pleasure and sale, am a youth leader and have a book to write for the autumn, quite apart from reviewing software for HCW. It is in this last capacity that I have become incensed today

Today in the post I received three programs for review. One was produced by a large organisation and two by much smaller outfits. I began to look at them immediately and started to formulate ideas and opinions about them.

The two from the small producers began to play on my mind as the day progressed. I can only presume that both are being marketed by the programmers themselves because I cannot believe that the games would have seen the light of day if they had been offered to a software house of any repute. To put it bluntly, they are pathetic, and even worse, almost laughable in both concept and execution. They are without doubt the sort of thing a magazine editor would have rejected, and yet their authors believe they are going to find a market and make money from such rubbish.

Perhaps what infuriated me most was the realisation that they actually might trick some of the buying public into parting with their money. These poor souls would not discover their mistake until later.

This is bad for all concerned. It's bad for the purchaser who looks at other companies' products with a more jaundiced eye next time, bad for the industry which, in the main, tries to offer good products and what's more it's bad for the programmer who dosn't realise that his progamming could develop to a more acceptable level given time and encouragement.

My advice to such programmers is this:

1 *Develop your software and then get someone else to test it for you. Take note of their comments.*

2 *Revise your program in the light of those comments and then try sending it to a software house. Choose one you admire because of the quality of its programs. Ask for comments. If you have such a house locally, try going in with the program and getting someone to tell you what they think.*

3 *If you are rejected, and remember 90 per cent of programs are, try to improve it again and then resubmit. Alternatively, send it to a magazine and see if it meets their criteria. Many of us start this way and there is money and prestige to be gained*

4 *If still rejected, try to accept that there isn't a market for your program. Don't under any circumstances try selling it yourself. You could lose money, friends and only gain a great deal of trouble.*

In short, what I'm saying is that large software houses do know what will sell and what won't. They have people to evaluate software, and suggest improvements. They also have the expertise and contacts to sell them in large quantities. All you have to do is accept the royalty agreement and then use the time left to write other programs while waiting for the cheques to arrive

Even very short tips and simple routines can find a home in magazines. Sending in such things will be more lucrative than tying your money up in cassettes and advertising which could never pay off. So do yourself, the public and software industry a big favour and leave it to the experts. Then everyone will benefit!

D.C.
HCW software reviewer
Leeds

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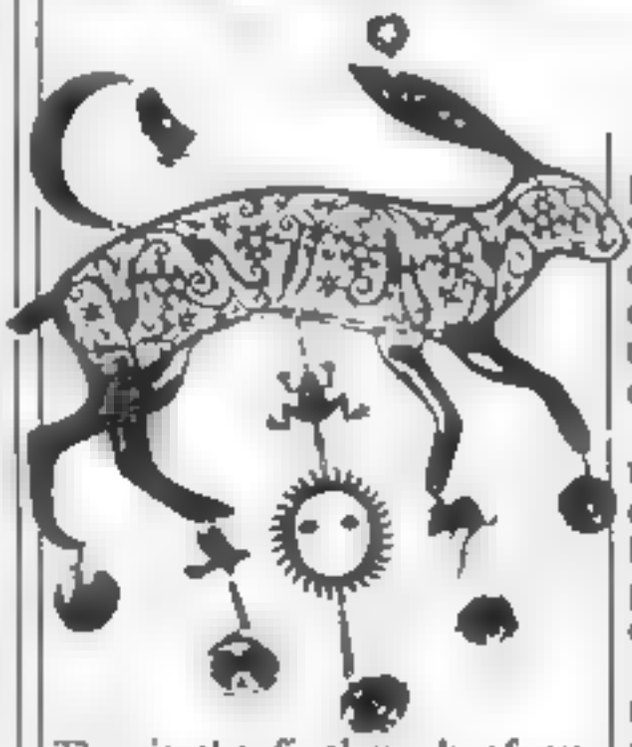
£1 off your chance to win the £30,000 hare



This is the final week of our Haresoft offer. Be among the first to join the search for the Jewelled Hare of Masquerade — if you find it, you could be the new owner of a prize worth £30,000!

The clues to the location of the hare are to be found in two adventure games. The first is called Hareraiser Prelude and our exclusive offer entitles you to £1 off the purchase price, by mail order.

You must enclose with your coupon the vouchers from the last two issues of Home Computing Weekly.

The second part, Hareraiser Finale, will be available in mid-September. If you participate in our special offer you will be offered the second by mail on the day of issue. However, it does not form part of this offer.

The treasure is not buried in the countryside as in the original book, Masquerade, by Kit Williams; you must pinpoint its location by deduction.

Haresoft will send your tape to you within five days, and guarantees to replace faulty tapes.

Haresoft is intent on preventing piracy, and copied tapes will not contain all the data. Registration numbers of the two tapes must be held by the winner.

If you win, you may exchange your prize for £30,000 in cash. We're talking big money!

● Hareraiser Prelude may also be ordered at the full price of £8.95, including postage and packing, from Haresoft, P.O. Box 365, London NW1 7JD.

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Look Sharp! 48K Spectrum £7.95

Mirrorsoft, Holborn Circus, London EC1P 1DQ

These programs, for age four- to seven-year-olds respectively, deal with short term recall and observation skills. At their highest levels they will tax the most observant adults!

The structure of both programs is the same, the difficulty and subject matter varying with age. A Snap-type game calls for the child, on spotting a match, to press a key; Odd One Out is just that, from a selection of three; Memory presents a whole picture, and the child has to choose various components to remake the picture. There are score keeping routines and second chances

Both graphics and sound are superb, no review could do them justice. For the younger user, the theme is Old MacDonald's Farm. For the older user, the theme is a selection test for the observer in a space mission. Rockets, aliens, space stations and moon landscapes abound

Two quibbles. Though it looks good, the re-designed character set of the space program really doesn't make reading easy for under 10-year-olds. The needlessly ornate packaging must have put the price up by £1

D.M.

instructions	90%
ease of use	95%
display	95%
value for money	85%

★-★-★-★

Words and Letters Spectrum £5

Webco, 26 Nuns Orchard, Histon, Cambridge CB4 3EW

Though promoted as compatible with any Spectrum fitted with Interface 1, even a 48K runs out of memory.

The child must type in the missing letter or word in these games. However, the context of the games is unexplained by the instructions, and the screen layout only confuses the issue.

Though the programs are designed for 3-year-olds, the words chosen are totally unsuitable, belonging in the vocabulary of a nine-year-old. They appear to have been selected at random. Introducing speech marks to a three-year-old, as this program does, is ludicrous. And any teacher knows you don't use capital letters to write whole words.

The letters to be typed are all vowels. Here again, the words in which they occur are totally unsuitable, the vowels to be supplied often break up the vowel digraphs like "ea" in "read", and to cap it all, input an incorrect response and the program chastises you with the ungrammatical "you should OF-pressed...". At least one of the words is mis-spelled.

Not only will this program not run properly, it is educationally, grammatically and linguistically unsound. D.M.

instructions	3%
ease of use	40%
display	30%
value for money	0%

★

Words and Pictures BBC 32K £8.95

Chalksoft, 37 Willowsea Rd, Worcester WR3 7QP

Educational programs are progressing by leaps and bounds and this program is one of the rare yet growing number of good packages for the infant or pre-school age range. The aim of the program is to improve sight-vocabulary by teaching children the meaning of a word using pictures. There are five programs, a menu and two programs each for the two wordsets

The Words program introduces a word and shows four pictures. The child moves the arrow until the correct picture is pointed out and then presses the return key. Interest and rewards are provided by the frogs who populate the program and the tune that is played. You can select a teacher's record table and enter all the childrens names at one sitting, which means that they only have to remember how to use two keys. The Sents program presents the same words but in sentences for the child to read. The manual is well written and very comprehensive. My only criticism is that the words don't apply to any particular reading scheme D.C

instructions	95%
ease of use	100%
graphics	90%
value for money	97%

★-★-★-★-★

Follow your micro's instructions

Use your computer as a learning aid. Learn biology or teach youngsters to read, using graphics and games

Words, Words, Words Dragon 32 £10.95

Dragon Data, Kenfig Industrial Estate, Margam, Port Talbot, Wales SA13 2PE

This cassette is one of the first in a series of educational software to be released by Dragon Data, strengthening the common belief that the Dragon is an underrated computer for educational purposes. This program is for children aged between five and eight years.

The program involves recreating a story in graphical form by [illegible] somewhere on the screen and takes its place as part of the story. When I say story I mean a simple scenario with several events occurring. For instance, in the city scene, once completed, vehicles move along the road, a truck has its load removed by a crane and the clouds start to rain. Eight scenarios are available

The program is graphically excellent using, in some cases, six or seven colours on the supposedly four colour screen. Useful as a simple aid although lacking in versatility. C.G.

instructions	80%
ease of use	65%
graphics	90%
value for money	65%

[illegible]

[illegible] Spectrum 48K £8.95

Scisoft, 5 Minster Gardens, Eastwood, Notts NG16 2AT

Another very impressive package from Scisoft. You get a comprehensive set of revision notes, and a revision program containing good advice and useful techniques.

Add to that a series of programs posing multiple choice questions on enzymes and hormones, the ear and the eye, botanical terms, the alimentary canal and its associated organs. Each one analyses your responses and gives a list of areas of weakness for further study

Then ponder the program on genetics, in a "supply the genotype from the accompanying data" form, an enormous amount of data being held within the program. Also included is a program on identifying unknown substances, and one on anatomical and botanical diagrams, which also delivers a copy of the diagram to the ZX printer

To say this is a comprehensive package is an understatement. There is an amazing amount of work and information here. There are one or two quirks in the screen layout, and the Spectrum's graphics capabilities are well stretched by the diagrams. I experienced some difficulty in loading side two. None the less, an excellent suite of programs. D.M.

instructions	100%
playability	80%
graphics	85%
value for money	100%

★-★-★-★-★

Cuthbert in Space
Dragon 32 £8

Microdeal, 41 Truro Rd, St Austell, Cornwall PL25 5JE

A machine code arcade game featuring that intrepid hero Cuthbert

This time you have been sent on a looting mission in outer space. First you must collect all the fuel cans from various shelves on each planet you visit. The cans must be collected one at a time and returned to the mother ship. At the same time you must shoot or avoid the police craft There are 15 cans on each planet and Cuthbert only has four lives. The shelves are arranged differently on each planet and you visit them at random each time you play. I must confess that I haven't yet managed to collect all the cans on one planet so I do not know what happens next

The instructions on the insert indicate this is merely the first step. After this stage is completed Cuthbert then begins looting and that's not all

The game is for one player using either joystick or keys. The graphics are good. Loading was a long slow process, but eventually successful Despite my poor result, I did enjoy playing the game. J.E.M.

instructions	75%
playability	80%
graphics	80%
value for money	80%

★★★★★

Lone Raider
Oric 1/ Atmos 48K
£8.50

Severn, 5 School Cres, Lydney, Glouc GL15 5TA

This is a space arcade game similar in its initial screen to Harrier or Penetrator, but you are in for a surprise. As the program loads you are presented with a colourful title page and catchy tune. A nice touch, I thought

After skimming the alien planet surface and destroying everything in sight, you have to guide your ship into the depths of a volcano crater past mines, sharks and other nasties to the final battle on the fourth screen against Zug's mothership and her attendant tie fighters

The game is difficult, but is comparable with the PASE joystick which may help. Using the keyboard I found I could only operate keys singly which can be a little frustrating.

The options mean that the player can control the degree of difficulty to a fine degree. Thus you can tune the game to score heavily in your favourite sections and ease your problems elsewhere.

This is a game which needs a lot of practice but it is addictive and should appeal to all games players whatever their ability P.S.W.

instructions	85%
playability	85%
graphics	75%
value for money	75%

★★★★★

Space Joust
VIC-20 £5.95

Software Projects, Bear Brand Complex, Allerton Rd, Woolton, Liverpool

From the cassette design, I thought this game would involve space-age knights in armour However, although nicely drawn, the design is totally misleading. Tut tut!

Imagine you control an egg-shaped spaceship which bounces up and down. The opposition is craft of identical design. Coincidentally both sets of vehicles are indestructible except by attack from above. The idea is to bounce on top of the enemy before it bounces on you. If you destroy an alien, it changes into a pod which reverts to it's original form if you don't jump on it first As in all games of this genre, you have to survive as many waves of aliens as possible

For some reason, the programmer has only included a joystick option, so if you don't have a joystick, forget it.

The graphics and sound in this game are well above average and movement is smooth and fast. So, I have mixed feelings over this game. Whilst it is nicely written and quite testing, it is also utterly boring

Whilst it's not my cup of tea, I am quite sure that many lovers of alien destruction will enjoy it A.W.

instructions	60%
ease of use	75%
graphics	75%
value for money	80%

★★★★

Journey into space

Travel beyond this galaxy in this set of space-age games. Explore the furthest regions of the universe

Arena 3000
Oric 1 £5.50

Microdeal, 41 Truro Rd, St Austell, Cornwall PL25 5JE

You are in an arena with various other combatants to overcome You have a fast firing weapon and can move across the screen in eight different directions, firing as you go Some enemies follow you while others float by harmlessly, but do not be deceived. There is definitely a need for a tactical approach and you can manoeuvre the enemy into a position where you can blast a dozen or more in one go Having cleared one screen you enter the next gladiators's arena

Oric's high resolution screen is employed and colour and, in particular, sound effects are put to good use. I especially liked the smooth movement. Huge scores can be achieved although I thought the Hall of Fame was less than spectacular.

Only slow recorded programs are available, but these are not too long, since the game is written for both 16K and 48K machines

Although quite simple I think this is a well constructed game, and Microdeal also offers an attractive back up with the Cuthbert Club. The lucky owner automatically becomes a member of the club and will receive a badge P.S.W.

instructions	75%
playability	90%
graphics	85%
value for money	85%

★★★★★

Cuthbert goes Walkabout
Atari 48K

Microdeal, 41 Truro Rd, St Austell, Cornwall PL25 5JE

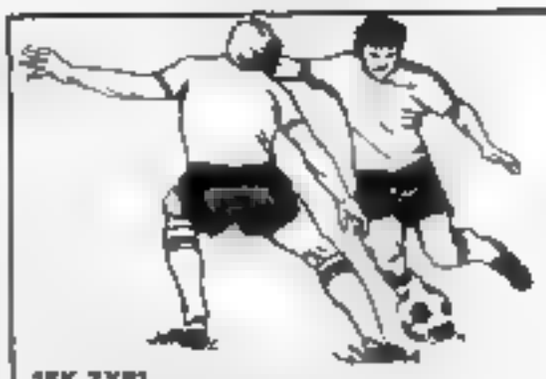
The object of Cuthbert's walkabout is to light up all the squares on the lunar pad. You are faced with a large grid of squares and, using the joystick, must direct Cuthbert around activating light switches at the four corners of each square scoring 10 points per switch and 50 points when the whole square lights up. After lighting the entire grid (score 1000 points) you proceed to grid 2 and start again. Sounds easy? Well it's not

Cuthbert is hounded by a group of ruthless moranians, semi-intelligent beings who try to bump off poor old Cuthbert. If Cuthbert takes too long the chief moranian appears. He is more intelligent, quicker and more difficult to avoid. Cuthbert can leap over any moranians approaching him but must take care not to jump too soon. The moranians do not take kindly to him landing on their heads

A rather repetitive tune accompanies what is a reasonably good game. I like Cuthbert, a lovable little character who could develop a real cult following. Oh, and you can record your high scores in Cuthbert's Hall of Fame D.W.L.

instructions	70%
playability	75%
graphics	90%
value for money	75%

★★★★★



15K ZX81
Here is a selection of titles still available for ZX81. Send s.a.e. for illustrated catalogue. These are the ZX81 equivalents of the Spectrum programs described above. Although similar in concept the specifications fall short of the descriptions given for the Spectrum.

"FOOTBALL-LEAGUE"
Forerunner of "Day of the Match" £4.00

"TEST-MATCH"
Forerunner of "Ball by Ball" £4.00

VIDEO SOFTWARE LTD.,
Stone Lane, Kinver,
Stourbridge, West Midlands
Telephone: 0384 872462

SOFTWARE FOR SPECTRUM AND ZX81

48K SPECTRUM

"Day of the Match" £5.00
Fascinating and realistic simulation of an entire football season. Name your own teams if you wish. English league provided on cassette). Rate each team from one to nine in various success categories such as attack, defence, manager etc. Watch the season unfold, includes knock-out option.

"Ball by Ball" £5.00
Simulates a test match series of one day international series. Set up your own teams and pool of players (England v Australia provided). Rate each player's capabilities as batsman and bowler on a one to nine scale for qualities such as talent, effort etc. Pick your teams and play the match. Electronic scoreboard shows progress of a match. Full supporting score card and series averages.

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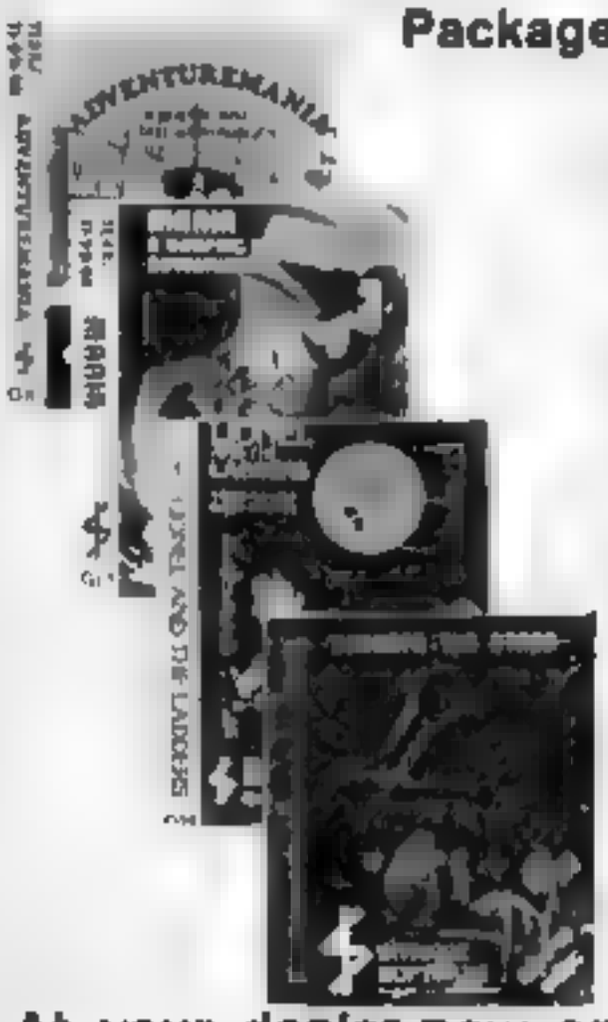

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U.S. SCENE

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Using SchoolNet, on-line teachers all over the U S. can compare notes. This network is designed similarly to The Source and CompuServe (the nation's two best known networks). A national system of computers with local access in major cities offers subscribers virtually instant access to an electronic-mail service with other capabilities too.

Through SchoolNet, teachers can present their views on various educational issues and problems, post their opinions on educational software, supplies, suppliers, and so forth. For an additional fee, teachers can take advantage of an on-line consulting service for professional advice as well as being able to receive opinions from some very well known and highly respected computer consultants.

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To use the system, an interested party need only contact the service by computer and modem and can tie right in to their word processor. If you are interested in further details, contact Linguanet at 3345 Wilshire Blvd., Suite 410, Los Angeles, California, 90010. (213) 380-1144.

From Futurehouse Inc., comes an interesting program for the Commodore 64 and Atari 400/800 compatibles. Called Alphabet Construction Set, this program uses a light pen, an arcade video game-like setting, and computer voice to teach children how to draw the letters of the alphabet. After input, the program points out mistakes, records the child's performance, and makes suggestions for improvement. This program is part of a line called Playground Software which emphasizes interactive learning coupled with ease of use and a sense of fun. See your local software dealer for details.

That's it for this week. See you next time.

Bud Izen
Fairfield, California

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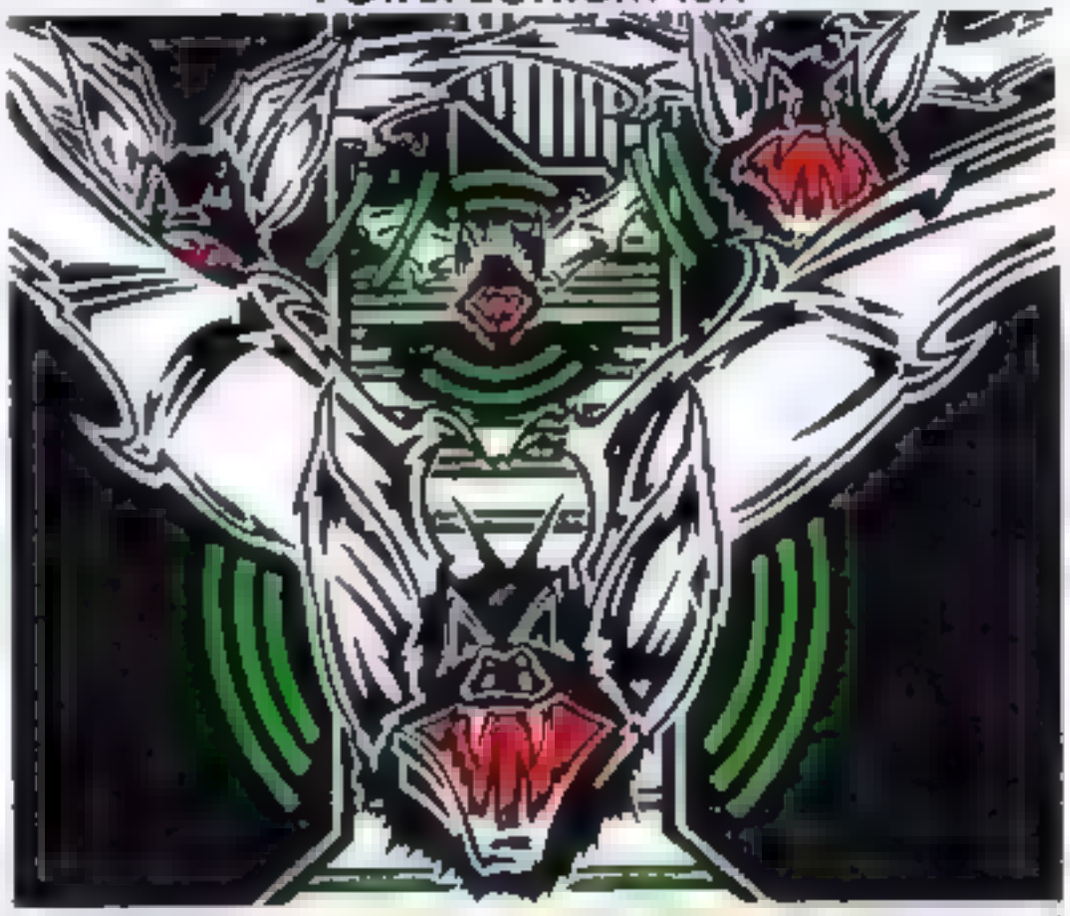
FOR SPECTRUM 48K



3D BAT ATTACK

AFTER THESE, THE REST IS KIDS STUFF.

Are you ready for CheetahSoft? There's only one way to find out. But be warned: these vampire bats know a good meal when they see one. And our friend with the scythe has had years of experience.

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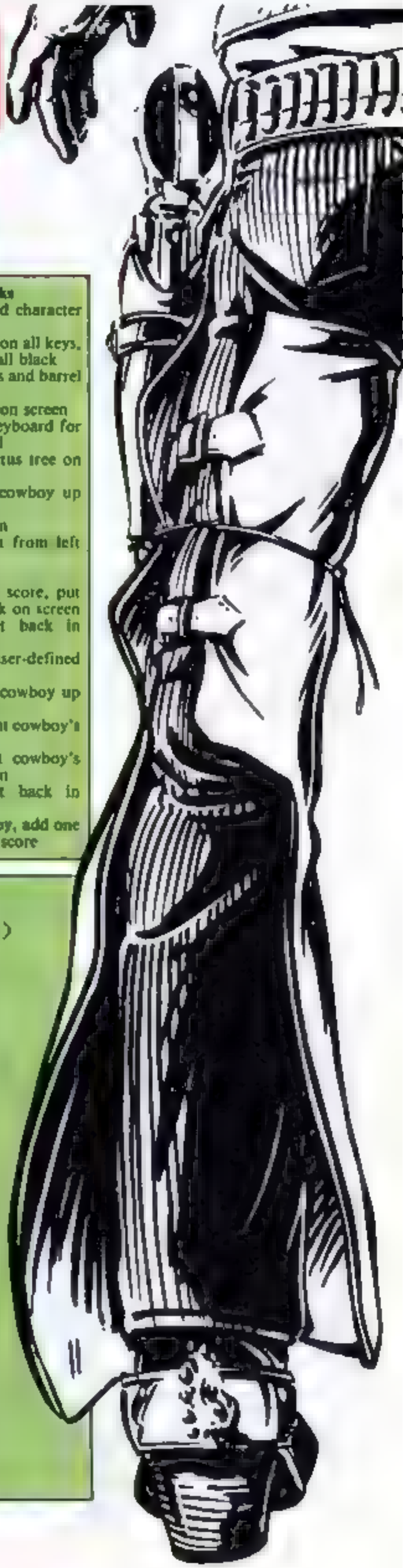
Wild West gunfight



Get trigger-happy and riddle your opponent with bullets, while dodging his fire in this game by Massimo Lenza

Okay, pardners, reach for your guns! It's a shoot-out!

Play with a friend and find out who's quickest on the draw. Fast reactions are essential, so let's hope your brain and finger co-ordination is up to standard.

Not only must you shoot your opponent, but you must also dodge bullets whistling past you. Move up, down and down two spaces at a time. Whenever you hit the mark and wound your foe you gain a point. Get ready to fire — the winner is the first to reach 20 points.

Keys to use: left cowboy: q up, w down, e down two at a time, f fire. Right cowboy: l up, o down, p down two at a time, k fire.

Variables

SC score
LS score
AS keyboard input
A position of left cowboy
X,Y positions of bullets
B position of right cowboy

How it works

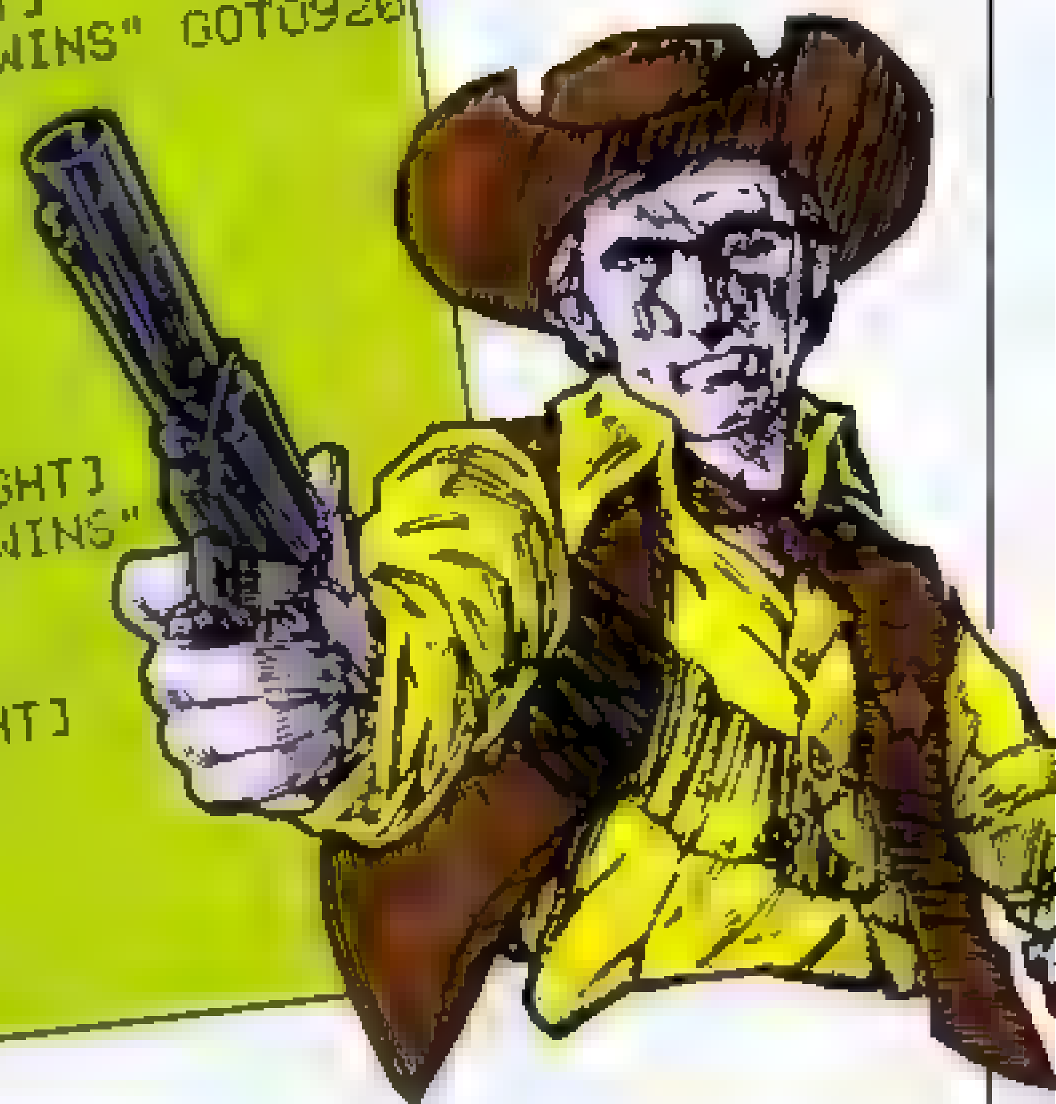
6 set up user-defined character mode
8-12 put auto repeat on all keys, change screen to all black
65-78 put cactus trees and barrel on screen
80-110 put cowboys on screen
130-174 check the keyboard for keys being pressed
175 put another cactus tree on screen
250-270 move left cowboy up and down screen
275-279 sound of gun
280-285 move bullet from left cowboy
350-354 kill cowboy
360-370 add one to score, put other cowboy back on screen
380-390 put bullet back in original position
400-460 data for user-defined characters
532-720 move right cowboy up and down screen
721-724 sound of right cowboy's gun
730-750 move right cowboy's bullet across screen
760-770 put bullet back in original place
780-814 kill left cowboy, add one to right cowboy's score

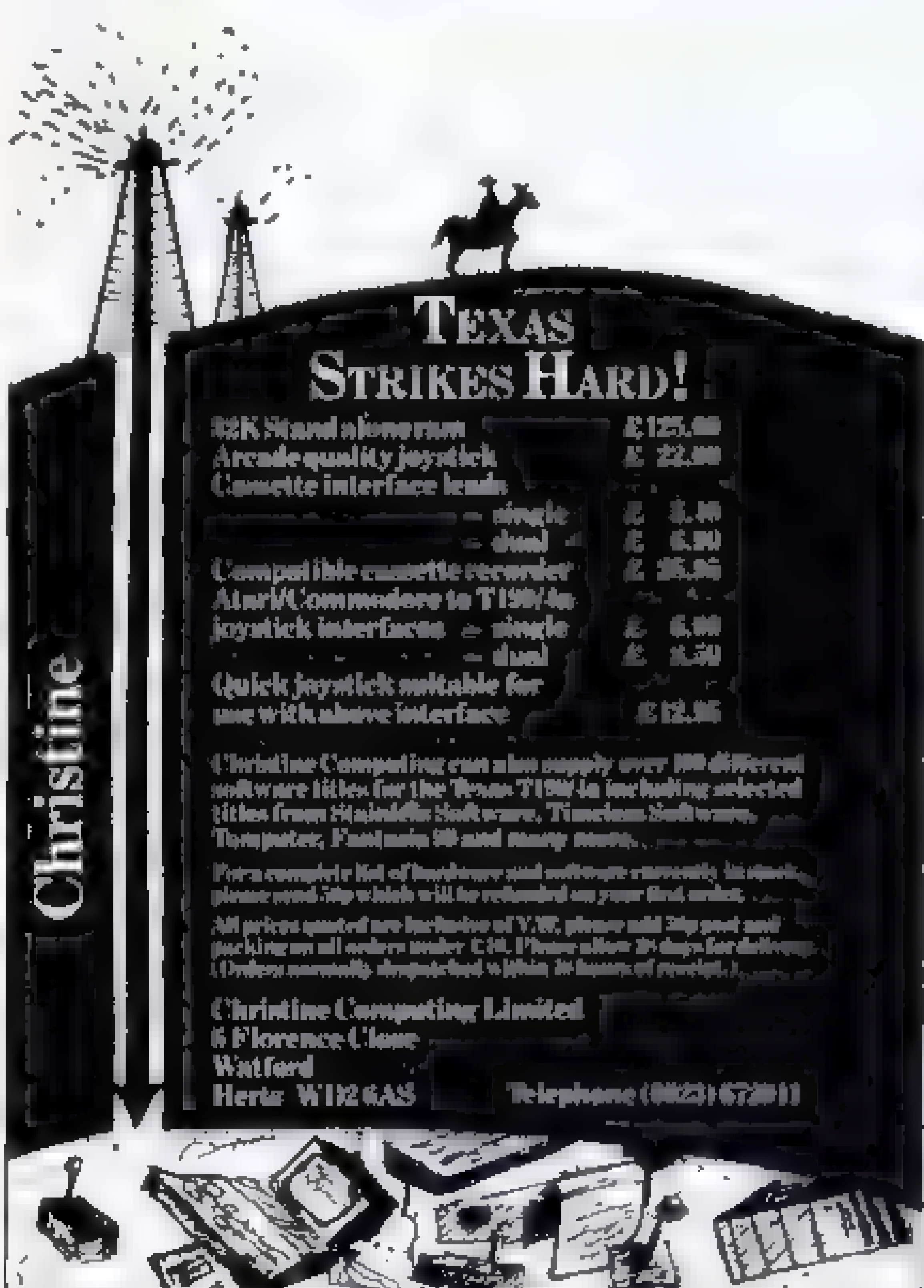
```
5 REM GUNSLING
6 POKE56,28 POKE36869,255 FORT=7168TO7168+(9*8)
  :READA:POKET,A:NEXTT 7 CLR
8 POKE650,255
11 FORT=7680TO8185:POKET,0:NEXTT
12 POKE36879,8
65 FORT=1TO1000:NEXTT
66 FORT=7680TO8185:POKET,0:NEXTT
75 POKE7756,6
76 POKE7984,6
77 POKE7781,7
78 POKE 7763,6
80 A=7905
90 POKEA,1
100 B=7917
110 POKEB,4
130 GETA$:IFA$=""THEN130
140 IFA$="Q"THEN250
150 IFA$="W"THEN260
160 IFA$="E"THEN270
170 IFA$="F"THEN275
171 IFA$="I"THEN700
172 IFA$="O"THEN710
```

C-20 PROGRAM

```
173 IFA$="P"THEN720
174 IFA$="K"THEN721
175 POKE 7756,6
180 GOTO130
250 POKEA,0:A=A-22:POKEA,1:GOTO130
260 POKEA,0:A=A+22:POKEA,1:GOTO130
270 POKEA,0:A=A+44:POKEA,1:GOTO130
275 POKE36878,15
276 POKE36877,140
278 FORT=1TO10:NEXTT
279 POKE36878,0
280 X=A+1:FORT=1TO12:POKEX,0:X=X+1:POKEX,2:
    IFPEEK(X+1)=4THEN350:NEXTT
285 NEXTT
290 GOTO380
350 POKEB,3
351 POKE36878,15
352 POKE36874,255
353 FORT=1TO40:NEXTT
354 POKE36878,0
359 FORT=1TO200:NEXTT
360 SC=SC+1:PRINT"(31)SCORE";SC:GOSUB900
370 POKEB,4
380 FORT=1TO13:POKEX,0:X=X-1:NEXTT
390 POKER,1:GOTO130
400 DATA 0,0,0,0,0,0,0,0
410 DATA 24,126,24,31,24,20,18,17
420 DATA 0,0,62,63,62,0,0,0
430 DATA 0,16,64,0,20,0,34,8
440 DATA 24,60,24,248,24,40,74,136
450 DATA 12,31,4,255,0,0,0,0
451 DATA90,90,90,102,24,24,24,126
452 DATA56,124,253,255,255,126,0,0
453 DATA0,0,126,254,126,0,0
460 DATA0,0,0,0,0,0,0,0
532 POKE36876,255
533 FORT=1TO500:NEXTT
534 POKE36876,0
700 POKEB,0:B=B-22:POKEB,4:GOTO130
710 POKEB,0:B=B+22:POKEB,4:GOTO130
720 POKEB,0:B=B+44:POKEB,4:GOTO130
721 POKE36878,15
722 POKE36877,128
723 FORT=1TO10:NEXTT
724 POKE36878,0
730 Y=B-1:FORT=1TO12:POKEY,0:Y=Y-1:POKEY,8
740 IFPEEK(Y-1)=1THEN800
750 NEXTT
760 FORT=1TO50:NEXTT
770 FORG=1TO13:POKEY,0:Y=Y+1:POKEY,0:
    NEXTG:POKEB,4:GOTO130
780 POKEB,4
800 POKEA,3:FORT=1TO100:NEXTT:POKEA,
    1:POKEB,4
810 POKE36878,15
811 POKE36874,128
812 FORK=1TO10:NEXTK
```

```
813 POKE36878,0
814 LS=LS+1:PRINT"■■■■■■■■■■■■■■32)SCORE";LS
815 GOSUB 960
816 GOTO770
899 REM[RVS ON][2 CRSR DOWN][2 CRSR RIGHT]
900 IF SC>19 THEN PRINT"■■■■■COWBOY ONE WINS" GOTO920
910 RETURN
919 REM[RVS ON][CRSR DOWN][3 CRSR RIGHT]
920 PRINT"■■■■PRESS 'S' KEY"
930 GETA$ IFA$=""THEN930
940 IFA$="S"THENRESTORE GOTO950
945 GOTO930
950 GOTO6
959 REM[RVS ON][2 CRSR DOWN][2 CRSR RIGHT]
960 IFLS>19THEN PRINT"■■■■■COWBOY TWO WINS"
    :GOTO980
970 RETURN
979 REM[RVS ON][CRSR DOWN][3 CRSR RIGHT]
980 PRINT"■■■■PRESS ANY KEY"
990 GETA$ IFA$=""THEN990
1000 RESTORE
1010 GOTO6
1020 END
```





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★ ★ ★ ★ ★

PKD2: MUSIC MAKER by David Martin
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PKD3: RIVETS! by John Haworth
CHARSET TWO (PICA) **£4.95**

Arcade action with Rivets! You have to pick up all of the rivets left lying around by your workmates. The boss is timing you so you had better be quick. Beware the banana skins and don't run too quick as it's a long way down to the ground. 5 skill levels. 21 floors. Timer. "This is a must for all game players." CHARSET TWO (PICA) is the second off-the-shelf character set for your own games. Instructions included.

PKD4: ESCAPE FROM MICA! by B Dhooper **£4.95**

This has to be the most addictive arcade game yet for your unexpanded TI-99/4A! You've been captured by the Count of Mica. To secure your release you have to collect valuable items from 3 fields. These fields are guarded by a terrifying monster who eats people like you for dinner!!! The Count has given you 4 Hyperspace pills — use them wisely. This is a very entertaining game with 4 skill levels, animated running, good graphics, sound and a High-Score table. Not to be missed!

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Symbol and valency test
by Ian Goldsack

With exams approaching, this short test on the symbols and valency of 32 elements and simple compounds is a very useful and effective revision aid. It covers most of the common elements used for practical experiments in the classroom. The program also includes several compounds, such as sulphate and nitrate, which are often needed when calculating formulae. It covers a maximum of two possible valencies, and does not distinguish between positive and negative valencies.

How it works

1-12 REMarks
50 set volume
100 clear screen and set screen mode
110 DIMension arrays
120-140 READ data into arrays
150 PRINT title
160 choose random number
170-200 PRINT element and underline it
210-220 INPUT symbol and check answer
230-270 INPUT valency and check answer
290 time delay — 2 seconds
300 return to PRINT title
1000-1040 give a bleep if answer is incorrect
2000-2320 data for arrays in the format ELEMENT, SYMBOL, VALENCY, OTHER VALENCY

Control characters

150 Clear home, reverse text, cyan text, SHIFT: SYMBOL & VALENCY TEST, green text, cursor down, cursor down
210 SHIFT: S
230 SHIFT: V
2010 SHIFT: H,H
2020 SHIFT: L,I
2030 SHIFT: S,N
2020 SHIFT: L,I
2030 SHIFT: S,N
2040 SHIFT: P,K
2050 SHIFT: S,A
2060 SHIFT: C,C
2070 SHIFT: M,M
2080 SHIFT: C,C
2090 SHIFT: F,F
2100 SHIFT: B,B
2110 SHIFT: Z,Z
2120 SHIFT: N,N
2130 SHIFT: T,S
2140 SHIFT: I,P
2150 SHIFT: M,H
2160 SHIFT: A,A
2170 SHIFT: C,C
2180 SHIFT: B,B
2190 SHIFT: I,I
2200 SHIFT: N,O
2210 SHIFT: H,C,O
2220 SHIFT: H,S,O
2230 SHIFT: O,H
2240 SHIFT: O,O
2250 SHIFT: S,S
2260 SHIFT: S,O
2270 SHIFT: C,O
2280 SHIFT: S,O
2290 SHIFT: N,N
2300 SHIFT: P,P
2310 SHIFT: C,C
2320 SHIFT: S,S

This program operates in lower and upper case and in some graphics mode. This is entered with PRINT CHR$(14), by using PRINT CHR$(8), it is possible to disable the changing of case when the shift and Commodore keys are depressed simultaneously. This means that the mode cannot be changed by accident.

Variables

I reference of elements of arrays
X during FOR...NEXT loop underlines element
D time delay FOR...NEXT loop
A is valency correct? 0=YES 1=NO
V answer to valency
ES(X) element name
SS(X) symbol of element
V1(X) one valency of the element
V2(X) second valency of the element

Hints on conversion

I have tried to write this program in a way which makes it easy to convert for any BASIC microcomputer. The only machine which will present serious problems is the ZX81, which does not have the READ or DATA commands

A list of the control characters is given, and this will be of great value if you are attempting to convert the program

Lines 1000 to 1040 define an envelope and create the sound On some machines it is possible to achieve this with only one or two statements. For example, on the BBC this could be replaced with:

ENVELOPE 1,128 1,-1,1,70,100, 0,-20,-5,126,0: SOUND 0,4, 100,40

There are one or two character numbers and pokes which must be known when trying to convert this program. These are listed below

POKE 54296,15 set the volume to its highest level
PRINT CHR$(147) clear the screen, leaving cursor in top left corner
PRINT CHR$(14) enter lower and upper case and some graphics screen mode
PRINT CHR$(8) prevent the user from accidentally changing mode from the keyboard

Grand National
by Darren Gray

Pick one of five horses to win the Grand National, and put your money where your mouth is. You have £200 to bet and it is up to you to calculate all the risks and shell out the readies when the odds are good

Who will be the favourite? You have a choice of Red Rum, Luck Vane, Grittar, Ben Nevis or Hallo Dandy. The going is good, so get ready to place your bets.

If your chosen horse loses the race, you forfeit your wager. Minimum bet is £50, and if your luck is out and you lose all your money, the game ends when you fall below the £50 level

Best of luck, and use your judgement to make a fortune!

```
10 DATA0,160,48,0,144,60,0,160,63,0,128,63,0,160,240
20 DATA0,171,48,0,160,48,0,160,240,15,171,240,63,235,240
30 DATA63,251,240,15,251,255,15,250,255,15,63,195,15,3,3
40 DATA15,3,11,60,195,8,43,195,0,43,227,0,56,35,128,8,0,128
50 DATA0,160,48,0,144,60,0,160,63,0,128,63,0,160,240
60 DATA0,171,48,0,160,48,0,160,240,15,171,240,63,235,240
70 DATA63,251,240,15,251,240,15,250,255,15,207,255,63,0,195
80 DATA255,192,195,240,192,203,60,240,200,15,56,192,3,136,224,0,128,32
85 REM*** SET UP SPRITES ***
90 FORT=0TO62 READA POKE12288+T,A NEXTT
100 FORT=0TO62 READA POKE12352+T,A NEXTT
110 V=53248 POKEV+21,31:POKEV+28,31:POKEV+37,0 POKEV+38,0
120 POKEV+39,1:POKEV+40,3:POKEV+41,13:POKEV+42,15 POKEV+43,7
125 REM*** INSTRUCTIONS ***
130 PRINT"J" POKE53280,15 POKE53281,15 PRINT"J■■■■■THE GRAND NATIONAL"
140 PRINT"S■■■■■M──────────────────────────"
150 PRINT"Q■■IN THIS GAME YOU PLACE A BET ON"
160 PRINT"■ANY OF THE 5 HORSES WHICH ARE"
170 PRINT"■1-RED RUM"
180 PRINT"■2-LUCK VANE"
190 PRINT"■3-GRITTAR"
200 PRINT"■4-BEN NEVIS"
210 PRINT"■5-HALLO DANDY"
220 PRINT"■■TYPE IN THE HORSES NO. AND HOW MUCH."
230 PRINT"■YOU START OFF WITH 200 POUNDS." G=200 REM G=YOUR MONEY
240 PRINT" SMALLEST BET IS 50 POUNDS.ENTER YOUR    BET ■NOW"
250 INPUTA,B IFB>GTHEN GOTO250
253 IFB<50THENGOTO250
255 REM***SET UP SCREEN***
260 PRINT"I■■■THE GRAND NATIONAL "
270 PRINT"H■■■■──────────────────────────"
275 POKE53280,5 :POKE53281,5
280 FORT=55536TO56056:POKET,2:NEXTT
290 FORT=0TO29:POKE1264+T,114 POKE1384+T,114 POKE1504+T,114 POKE1624+T,114
295 POKE1744+T,114:NEXTT
300 PRINT"S■■■■■■■■■■■1 ■■■■2 ■■■■3 ■■■■4 ■■■■5"
302 PRINT"S" PRINTSPC(31)"■■■■F■■■■I ■■■■N■■■■I ■■■■G■■■■H"
305 REM***MOVING HORSES***
310 Y1=100 Y2=125 Y3=150 Y4=175 Y5=200 P=192
320 POKEV+1,Y1:POKEV+3,Y2 POKEV+5 Y3 POKEV+7,Y4:POKEV+9,Y5
330 X(1)=50:X(2)=50:X(3)=50 X(4,=50 X(5)=50
335 S=54272
340 F=INT(RND(1)*5)+1
345 POKES+24,15 POKES,220:POKES+1,68 POKES+5,15:POKES+6,20 :POKES+7,120
348 POKES+8,100:POKES+12,15:POKES+13,215
350 POKEV,X(1) POKEV+2,X(2) POKEV+4,X(3) POKEV+6,X(4) POKEV+8,X(5)
360 LETX(F)=X(F)+4
370 FORT=0TO4 POKE2040+T,P NEXTT P=P+1 IFP=194THENP=192
380 IFX(F)>250THENGOTO500
385 POKES+4,129 POKES+4,128
390 GOTO340
500 POKEV+21,0:PRINT"I■■■THE HORSE IN LANE ";F;" WON"
510 IFF=ATHENPRINT"■■ YOUR HORSE WON THE RACE" G=G+B
520 IFF<>ATHENG=G-B
530 PRINT"■■■YOU HAVE ";G;" POUNDS LEFT"
540 IFG<50THENGOTO560
550 POKEV+21,31:POKEV+28,31:GOTO240
560 PRINT"J■■■YOU HAVE NOT GOT ENOUGH MONEY LEFT TO   MAKE A BET"
570 PRINT"■■■■■■■■■■■■■■■■■SO GOODBYE ! ! !"
```

```
 1 REM  ****************
 2 REM  *               *
 3 REM  *  SYMBOL  &    *
 4 REM  *   VALENCY     *
 5 REM  *     TEST.     *
 6 REM  *               *
 7 REM  *  BY:          *
 8 REM  * I.GOLDSACK    *
 9 REM  *     1984      *
10 REM  *               *
11 REM  ****************
12 REM
50 POKE 54296,15
100 PRINT CHR$(147);CHR$(14);CHR$(8)
110 DIM E$(32),S$(32),V1(32),V2(32)
120 FOR I=1 TO 32
130 READ E$(I),S$(I),V1(I),V2(I)
140 NEXT I
150 PRINT "□■▙          ● N∩⊓ & x♠L¯⁄⁻ | | ¯●|          [RVS]"
160 LET I=INT(RND(I)*32)+1
170 PRINT E$(I)
180 FOR X=1 TO LEN(E$(I))
190 PRINT "¯",
200 NEXT X
210 PRINT:PRINT:INPUT"●YMBOL >";S$
220 IF S$<>S$(I) THEN GOSUB 1000:PRINT "    "S$(I)
230 PRINT:INPUT "xALENCY >";V
240 LET A=0 IF V<>V1(I) AND V<>V2(I) THEN GOSUB 1000 LET A=1
250 IF A=1 THEN PRINT "   ";V1(I) IF V1(I)=V2(I) THEN GOTO 280
260 IF V<>V2(I) THEN PRINT " OR";V2(I)
270 IF A=0 AND V<>V1(I) THEN PRINT " OR"V1(I)
280 PRINT
290 FOR D=1 TO 2000:NEXT D
300 GOTO 150
1000 REM ***** INCORRECT ANSWER *****
1010 POKE 54276,0 POKE 54277,0 POKE 54278,0 POKE 54272,0 POKE 54273,0
1020 POKE 54277,9:POKE 54278,0:POKE 54276,17
1030 POKE 54272,75:POKE 54273,34
1040 RETURN
2000 REM ***** DATA *****
2010 DATA " YDROGEN"," |",1,1
2020 DATA "LITHIUM","LI",1,1
2030 DATA "●ODIUM","⁄A",1,1
2040 DATA "¯OTASSIUM","⁄",1,1
2050 DATA "●ILVER","♠G",1,1
2060 DATA "⊣OPPER","⊣U",1,2
2070 DATA "\AGNESIUM","\G",2,2
2080 DATA "⊣ALCIUM","⊣A",2,2
2090 DATA "\RON","⊣E",2,3
2100 DATA "|ARIUM","|A",2,2
2110 DATA "♦INC","♦N",2,2
2120 DATA "⁄ICKEL","⁄I",2,2
2130 DATA "| IN","●N",2,4
2140 DATA "LEAD","¯B",2,4
2150 DATA "\ERCURY"," |G",2,2
2160 DATA "♠LUMINIUM","♠L",3,3
2170 DATA "⊣HLORINE","⊣L",1,1
2180 DATA "|ROMINE","|R",1,1
2190 DATA "\ODINE","\",1,1
2200 DATA "⊣NITRATE","⁄⊓3",1,1
2210 DATA "⊣HYDROGEN CARBONATE"," |⊣⊓3",1,1
2220 DATA "⊣HYDROGEN SULPHATE"," |●⊓4",1,1
2230 DATA "⊣HYDROXIDE","⊓ |",1,1
2240 DATA "⊓XYGEN","⊓",2,2
2250 DATA "●ULPHUR","●",2,2
2260 DATA "⊣SULPHATE","●⊓4",2,2
2270 DATA "⊣CARBONATE","⊣⊓3",2,2
2280 DATA "⊣SULPHITE","●⊓3",2,2
2290 DATA "⁄ITROGEN","⁄",3,3
2300 DATA "¯HOSPHORUS","¯",3,5
2310 DATA "⊣ARBON","⊣",4,4
2320 DATA "●ILICON","●I",4,4
```

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Value for money

Firstly, thanks to G W Hoygard (HCW 61) for the clue to the cheat mode for Revenge of the Mutant Camels. It was a great help. Can anyone tell me how to get more lives on Manic Miner for the 64?

Now, with regard to your item on pocket money games (HCW 57). I saw these Mastertronic games in W H Smith.

My children bought three, Munch Mania, Duck Shoot and Space Walk for the Commodore 64. We all tried the games and found them excellent. I have paid a lot more for some games with top names and found them very disappointing and of poor quality.

So, with regard to Neil Johnson's comment "you only get what you pay for", I can only say that I think the three games I have tried were excellent value for money.

Mrs J Dugdale, Garston, Liverpool

Commodore: I'll join in

Since everybody seems to be complaining about the back-up service of Commodore, I thought I might as well join in.

Commodore is a company which knows how to make excellent computers (referring to the VIC and 64) and have some excellent software, especially the International Soccer cartridge. But when it comes to a back-up service and ability to provide the goods, they are hopeless.

I have had two incidents, one of which isn't solved yet. They regard getting the computer and, at this moment in time, trying to get International Soccer.

When the 64 first came out, I couldn't wait so I rang a dealer and he promptly told me he'd had one machine, and had a waiting list of 20, so I put my name on the list anyway. I also put my name on four other dealers' lists.

Between September '82 and March '83, I rang Commodore approximately 20 times. I got my computer in March and have enjoyed it since.

The incident about International Soccer is worse because I've waited a year for it, as it was at last year's Commodore show when Commodore said "the game is soon to be released."

I'm top of the list at a dealer and I've been waiting for two months since its release, and still heard nothing. Every week I ring, and they haven't received the game and they tell me it's the same situation on the cassette deck front (not that that bothers me, I've got one).

Now, to end on a better note, I think HCW is brilliant, but more 64 reviews wanted and more of David Rees's programs. The Extended BASIC (HCW 45-47) saved me spending £50 on a long awaited cartridge! It's very good. Perhaps we could get David Rees to do a decent Donkey Kong since money can't buy a decent version for the 64.

Finally, Julian Cowland-Smith (HCW 32), your friend's score of 169,990 on Interceptor's Frogger isn't the highest ever as I reached 208,360 after approximately one hour (didn't time it).

Terry Gilroy, Penzance, Cornwall

Whose is most rare?

Good work, HCW. I'm a TI owner but I was constantly bugged by BBC and Spectrum owners who claimed that they had the best home computers in the world. They constantly criticised me for buying a TI-99/4A and said it was an utter waste of £150.

However, after reading Bud Izen's U.S. Scene and M.C. Adams' letter (HCW 58), the BBC and Spectrum owners are not so proud anymore.

It all happened at the beginning of May. I was at my friend's house playing Manic Miner on his Spectrum and a friend of mine who owns a BBC was also there.

I began saying how good a game Manic Miner was when my BBC friend pipes up: "You'll never get anything as good on the Texas. It's got no software. Hardly anyone's got a Texas".

My Spectrum friend also joined in. Then in response I told them that Texas owned a larger part of the home computer market in the United States than Timex Sinclair.

Then using M.C. Adam's information in his letter I told him that the Spectrum in Australia costs $1,500. When I told him that the Hobbit was marketed for $40 they'd had enough. They rushed down to check the exchange rate in the newspaper. Working away on their calculators they found that the Spectrum costs around £250 and the BBC about £1,000 in English money.

Whose computers are the utter waste of money now and who has the more rare computer?

Sam Singh, Dartford, Kent

Minority are unlucky

I am writing in reply to Sheila Maguire's letter (HCW 53) in defence of the Commodore 64.

For the past three years I have been the happy and contented user of the VIC 20, Commodore 64 and PET micro computers. In all this time, I have not once had any problem or cause for complaint. Also many of my friends own Commodore 64 and VIC 20 computers and agree with my previous comments.

I can only say that Sheila Maguire and others like her (HCW 57) are unlucky, and in the minority.

At the moment I own a Commodore 64-based computer system comprising computer, Seikosha GP-100 VC printer, 1541 disc drive, C2N datasette and a rather large library of games software! I am completely happy and hope to further expand my system.

I also must congratulate you on a most enjoyable and informative magazine with listings that actually work when typed in!

Keep up the good work.

Alastair Heaton, St Helens, Merseyside

Give it some thought

After reading many issues of your magazine, I have noticed that BASIC programmers always seem to blindly follow their computer manuals.

For example, in Pacman-type games the object is to eat all the pellets or to collect objects which are littered around the maze etc. To check whether a collision has occured most computers use the PEEK command to determine which character is where, on the screen. The TI-99/4A — which I own — uses the CALL CHAR (Row, Column, ASCII, Variable) command.

However, with a little thought these two machine-specific commands can be done away with for certain types of BASIC programs, thus ensuring a degree of compatibility.

One method which I have developed is as follows. The screen is mapped using a two-dimensional array, dimensional to the number of rows and columns available i.e. DIM A (Row, Column). Then, using a nested FOR...NEXT loop:

```
10 FOR Row = 1 to 24
20 FOR Column = 1 to 32
30 A (Row, Column) = 1
40 NEXT Column
50 NEXT Row
```

all values are set to 1. The number 1 then signifies a square on which there is no object, i.e. a space.

Then, when the screen is drawn, each stationary object - when plotted — can be given its own code number as follows — 1 reserved for space, 2 wall for maze, 3. pellet, 4 power pill.

It is a simple matter then, to use the ON A (Row Column) GOTO. statement to direct the program to various procedures depending upon which object has been encountered.

In this way, machine-specific commands need only be used for checking for collisions between two moving characters, since all stationary obstructions have been catered for.

B. Dhooper, Goldthorn Pk, Wolverhampton

Queuing for help

I would like to ask any reader who owns a Commodore 64 if they could help me with the adventure game, The Quest. In the instructions it says you have to "locate the maker and his power source".

We have visited all the rooms (we think) and still cannot find the maker or his power source.

Please, if anyone can help write before I throw the disc drive out of the window.

Andrew Wilkins, Stroud, Glos.

End your misery

For all those people out there who have got Jet Set Willy, I think it's about time someone put you out of your misery. A few POKES to help you — a la Manic Miner:

Firstly, and most importantly, the no loss of life POKE:

POKE 35899,0

POKE 37202,0 will keep quite a few of the nasties caught up. These have to be entered at line 35 in the BASIC program.

You type in LOAD "" then as soon as the BEEP starts press BREAK then type in 35 POKE (whatever),0. Then type RUN and push ENTER and play the cassette.

If anyone knows how to enter the conservatory roof please tell us.

Gareth Trevers, Watford

New TI club

I would like to tell readers of a new club for TI 99/4A owners. Membership is free and the club offers various services including a newsletter and hints on better computing for the TI. There is also a tape magazine available. If anyone is interested they should write to the address below.

Joseph Murphy, 41 Winchester Street, Acton, London, W3 8PA

Praise for Commodore

Reading your letters page, I have noticed many complaints about Commodore. When my computer went faulty I telephoned Commodore and they told me to send my computer to them. After a week my computer came back to me and it works perfectly.

I have owned a VIC-20 computer for 18 months and I have found Commodore both very helpful and reliable.

I cannot praise them enough for their after-sales service.

Darren Allen, Warley, West Midlands

Send your letters to Letters, Home Computing Weekly, No.1 Golden Square, London W1R 3AB. Don't forget to name your computer — the best letter could win £5-worth of software. Got a problem with your micro? We'll soon be starting a queries page, so send your technical questions to Queries at the above address.

```
10 CALL CLEAR
20 CALL SCREEN(2)
30 FOR I=1 TO 8
40 CALL COLOR(I,16,1)
50 NEXT I
60 PRINT " PEARL DIVERS  BY PHIL ORD"
70 PRINT "          INSTRUCTIONS          USE DIRECTION KEYS(ESDX)   TO GUIDE YOUR D
IVER AROUND"
80 PRINT "  THE SEA PICKING UP PEARLS      BEWARE OF THE RANDOMLY        PLACED
MINES AND THE"
90 PRINT "  MAN-EATING SHARKS. IF YOU      MAKE CONTACT WITH THESE        YOUR D
IVER IS LOST"
100 PRINT "  PRESS ENTER TO CONTINUE"
110 CALL KEY(0,K,S)
120 IF S=0 THEN 110
130 IF K=13 THEN 140
140 CALL CLEAR
150 PRINT "    IF YOU LOSE 5 DIVERS       THE GAME ENDS AND YOU LOSE   ALL THE PE
ARLS YOU COLLECTED"
160 PRINT "  YOU LOSE PEARLS FOR STRAYING     INTO THE BARRACUDAS OR CORAL        W
HEN YOU COLLECT 400"
170 PRINT "  PEARLS THE BLACK CAVE HIDING       THE TREASURE WILL OPEN."
180 PRINT "  WARNING!! IF YOU TOUCH THE       BLACK WALLS OF THE CAVE          TH
E GAME  WILL END"
190 PRINT "  PRESS ENTER TO CONTINUE"
200 CALL KEY(0,K,S)
210 IF S=0 THEN 200
220 IF K=13 THEN 230
230 CALL CLEAR
240 CALL SCREEN(2)
250 MEN=5
260 P=0
270 PP=0
280 REM  DEFINE CHARACTERS
290 CALL CHAR(40,"[illegible]")
300 CALL CHAR(41,"[illegible]")
310 CALL CHAR(42,"FFFFFFFFFFFFFFFF")
320 CALL CHAR(43,"[illegible]")
330 CALL CHAR(96,"FFFFFFFFFFFFFFFF")
340 CALL CHAR(104,"[illegible]")
350 CALL CHAR(105,"[illegible]")
360 CALL CHAR(106,"[illegible]")
370 CALL CHAR(112,"[illegible]")
380 CALL CHAR(113,"[illegible]")
390 CALL CHAR(114,"[illegible]")
400 CALL CHAR(115,"[illegible]")
410 CALL CHAR(120,"[illegible]")
420 CALL CHAR(121,"[illegible]")
430 CALL CHAR(122,"[illegible]")
440 CALL CHAR(123,"[illegible]")
450 CALL CHAR(128,"[illegible]")
460 CALL CHAR(136,"[illegible]")
470 CALL CHAR(144,"[illegible]")
480 CALL CHAR(152,"FFFFFFFFFFFFFFFF")
490 REM  DEFINE COLOURS
500 CALL COLOR(2,15,6)
510 CALL COLOR(9,7,1)
520 CALL COLOR(10,2,6)
530 CALL COLOR(11,2,15)
540 CALL COLOR(12,2,6)
550 CALL COLOR(13,6,6)
560 CALL COLOR(14,2,15)
570 CALL COLOR(15,2,11)
580 CALL COLOR(16,2,2)
590 REM  SET UP SCREEN
600 CALL HCHAR(1,1,40,544)
610 CALL HCHAR(1,1,42,128)
620 RESTORE 710
630 FOR I=1 TO 24
640 READ A,B,C
650 CALL HCHAR(A,B,96,C)
660 NEXT I
670 FOR I=1 TO 3
680 READ A,B,C
690 CALL VCHAR(A,B,96,C)
700 NEXT I
710 DATA [illegible]
720 DATA [illegible]
730 DATA [illegible]
740 DATA [illegible]
750 DATA [illegible]
760 T=2
770 T=T+4
780 IF T>29 THEN 890
790 N=0
800 N=N+1
810 IF N=5 THEN 890
820 RANDOMIZE
830 [illegible]
840 [illegible]
850 CALL HCHAR(T,[illegible],43)
860 CALL HCHAR(T+2,[illegible],106)
870 GOTO 800
880 GOTO 770
890 CALL HCHAR(21,26,106,3)
900 CALL HCHAR(22,24,106,4)
910 CALL HCHAR(23,25,106,3)
920 CALL HCHAR(24,25,106,3)
930 CALL HCHAR(22,29,96)
940 CALL HCHAR(24,29,106)
950 RESTORE 1040
960 FOR I=1 TO 12
970 READ A,B,C
980 CALL HCHAR(A,B,104,C)
990 NEXT I
1000 FOR I=1 TO 12
1010 READ A,B,C
1020 CALL HCHAR(A,B,105,C)
```

Using the direction keys, E,S,D, and X, collect as many pearls as you can without being eaten by the sharks or blown up by mines. There is also a treasure hidden in a secret cave which is revealed during the game

Variables

R, C row and column of diver
R2, C2 row and column after diver
DIV diver
MEN number of divers
P pearls
PP penalty points
TREASURE

How it works

10-220 instructions
230-270 set initial values
280-480 define characters
590-1200 set up screen graphics
1210-1450 move diver
1460-1500 diver at edge of screen or on surface of water
1510-2050 position of diver and consequences
2060-2830 end routines and sound
2840-2300 reveals treasure cave

Will you risk sharks and mines for pearls and treasure?

Type in Phil Ord's program, put on your diving gear and you're ready to face twin dangers for rich rewards

TI-99/4A PROGRAM

```
1030 NEXT I
1040 DATA 11 ,5 , 13 24 , ,5 7 , 2, 3 9 29 , 22 ,0
1050 DATA 5 ,6 , 8 22 , 9 , ,4 9 , 7 26 9 , , ,
1060 DATA ,1 ,6 , ,3 25 1 ,5 8 , 2, ,4 9 30 , 22 ,9
1070 DATA 5 7 , 8 23 , 9 ,, , 6 28 , ,7 2 , ,9 22 ,
1080 CALL HCHAR( 4 25 ,,2
1090 CALL HCHAR( 4 26 ,1) 4
1100 CALL HCHAR( 3 27 ,4
1110 CALL HCHAR( 3 28 , 5
1120 CALL HCHAR( 9 26 36
1130 CALL HCHAR( 7 29 ,20
1140 CALL KEY( 0 , K, S)
1150 IF S=0 THEN ,1140
1160 R=5
1170 C=25
1180 X=1
1190 Y=0
1200 DI=128
1210 REM MOVE DIVER
```

```
1220 CALL KEY(0,K,S)
1230 RZ=R
1240 CZ=C
1250 IF S=0 THEN 1440
1260 CALL SOUND(10 -4737 0)
1270 IF K<69 THEN 1310
1280 Y=-1
1290 X=0
1300 DI=128
1310 IF K=88 THEN 1350
1320 Y=1
1330 X=0
1340 DI = 32
1350 IF K=83 THEN 1390
1360 Y=0
1370 X=-1
1380 DI=120
1390 IF K<>68 THEN 1440
1400 Y=0
1410 X=1
1420 DI =,2,
1430 REM MOVE DIVER
1440 R=R+
1450 C=C+
1460 REM VER AT EDGE OF SCREEN
1470 IF R<5 THEN 1440
1480 IF R 24 THEN 680
1490 IF C HEN 1500
1500 IF C 32 THEN 1520
1510 REM CONTACTS OF DIVER AND CONSEQUENCES
1520 CALL GCHAR(R C ,ASN
1530 CALL HCHAR(RZ CZ 32
1540 CALL HCHAR(R C DI
1550 IF ASN=37 THEN 1740
1560 IF ASN=34 THEN 1930
1570 IF ASN=40 THEN 1640
1580 IF ASN=36 THEN 2010
1590 IF ASN=32 THEN 1610
1600 IF ASN=126 THEN 2340
1610 IF ASN=64 THEN 2010
1620 IF ASN=42 THEN 2190
1630 IF ASN=62 THEN 2110
1640 ASN=1
1650 IF R=480 THEN 1440 ELSE 1220
1660 R=R-1
1670 GOTO 1730
1680 R=R+1
1690 GOTO 1730
1700 C=C+1
1710 GOTO 1730
1720 C=C-1
1730 CALL KEY( 0 K S
1740 IF S=0 THEN 1730
1750 GOTO 1220
1760 REM****
1770 CALL CHAR( 107 "
1780 CALL CHAR( 108 "
1790 CALL HCHAR( R C 32
1800 CALL HCHAR( R C+1 108
1810 CALL SOUND( 110 0
1820 FOR D=1 TO 100
1830 NEXT D
1840 CALL HCHAR( R C+1 104
1850 CALL HCHAR( R C 107
1860 CALL HCHAR( 3 26 42
1870 IF MEN=0 THEN 2060
1880 IF MEN= HEN 1940 ELSE 1910
1890 CALL HCHAR( 7 25 42
1900 IF MEN=0 HE 2060
1910 GOTO 30
1920 GOTO 20
1930 MEN=MEN-
1940 CALL CHAR( 83 "
1950 CALL HCHAR( R C 83
1960 CALL SOUND( -110 5
1970 FOR D=1 TO 100
1980 NEXT D
1990 CALL HCHAR( R C 104
2000 IF MEN=0 THEN 2060
2010 CALL HCHAR( 3 26 42
2020 IF MEN= HE 2040 ELSE 2050
2030 CALL HCHAR( 3 26 42
2040 GOTO 30
2050 GOTO 1220
2060 CALL CLEAR
2070 FOR I=5 TO 8
2080 CALL COLOR( I 16 2
2090 NEXT I
```

```
2100 PRINT YOU RAN OUT OF DIVERS AND LOST ALL YOUR PEARLS PLAY
AGA N ) OR N
2110 CALL KEY( 0 K S
2120 IF S=0 THEN 2110
2130 IF K=89 THEN 20 ELSE 2060
2140 CALL HCHAR( 2 3 <0 4
2150 CALL HCHAR( 3 <0
2160 CALL HCHAR( 0 3 20 3
2170 CALL HCHAR( 9 5 20
2180 CALL HCHAR( 0 4 ,20 2
2190 CALL SOUND( 5 2
2200 CALL HCHAR( 4 44
2210 CALL HCHAR( 6 3 ,42 ))
2220 CALL HCHAR( 7 3 42
2230 CALL HCHAR( 5 32 2),
2240 CALL HCHAR( 8 3 32
2250 CALL HCHAR( 9 2 152 ,/
2260 CALL HCHAR( 11 4 152 3
2270 CALL HCHAR( 7 6 152 4,
2280 CALL HCHAR( 10 2 32 )
2290 CALL HCHAR( 13 2 152 3
2300 GOTO 220
2310 P=P+1:P=P-100
2320 CALL SOUND( 10 4000 )
2330 GOTO 220
2340 P=P+1:P=P-500
2350 CALL SOUND( 10 2000 )
2360 GOTO 220
2370 THEN 32000
2380 "=R+1:P=P
2390 FOR I=440 TO 1 STEP -10
2400 FOR J= 0 TO 660 STEP 10
2410 CALL SOUND( 0 J 5
2420 CALL SOUND( 0 J 5)
2430 NEXT J
2440 NEXT I
2450 CALL CLEAR
2460 CALL SCREEN(3
2470 FOR I=1 TO 16
2480 CALL COLOR( I 16 2
2490 NEXT I
2500 PRINT MELL DONE TO ESCAPE THE
2510 PRINT TREACHEROUS WORTH 0 TO 500
2520 PRINT WORTH 100 EACH
2530 PRINT LESS OF DOLLARS FOR LOST PEARLS
2540 PRINT FOR A TO AL PICTURE OF DOLLARS
2550 PRINT PLAY AGA NT Y OR N
2560 CALL KEY( 0 K S
2570 IF S=0 THEN 2560
2580 K=ASC("Y") THEN 230 ELSE 2660
2590 REM****
2600 CALL SCREEN( 4
2610 FOR I=0 TO 30
2620 CALL SOUND( 80 -7 I
2630 NEXT
2640 CALL HCHAR( 3 1 ,0
2650 K=ASC("Y") THEN 2660
2660 CALL HCHAR( 3 26 42
2670 K=ASC("N") THEN 2680 ELSE 2560
2680 CALL HCHAR( 3 26 4
2690 FOR I=0 TO 30
2700 NEXT I
2710 FOR I=1 TO 16
2720 CALL SOUND( -100
2730 CALL
2740 CALL COLOR( I
2750 CALL COLOR( I 1
2760 NEXT I
2770 FOR I=1 TO 16
2780 CALL COLOR( I 16 2
2790 NEXT I
2800 CALL CLEAR
2810 PRINT OU SHOULD HAVE LOST HE WAS PLAY AGA NT Y OR N.
2820 INPUT
2830 CALL KEY( 0 K S
2840 IF S=0 THEN 2830
2850 IF K=89 THEN 230 ELSE 2840
2860 END
```

Machine Code for Beginners Spectrum £7.95

Dream, PO Box 64, Basingstoke RG21 2LB

Another excellent package from Dream. Most programs which say 'they are for "absolute beginners" to machine code turn out to be anything but! You flounder around in hexadecimal and registers, and end up lost.

This is different. It's a simulation of a simple microprocessor with just four registers and a limited instruction set. The whole of the CPU is displayed on the screen. The accompanying manual takes you gently through each instruction together with the processes which take place within your micro. If you don't like hex, you can do it in decimal. After considering the action of the instruction, you can enter it in a simple program and watch the CPU at work. The graphics are very clever, and a real aid to understanding.

By following the manual you can build up the necessary information to understand the real thing, like a Z80, later. The manual itself is so well written it's almost worth the package price. Even though this is a simulation, the mnemonics are very like those of the Z80. First class for the student or enthusiast.

D.M.

instructions	100%
ease of use	100%
display	100%
value for money	100%

★★★★★

BBC BASIC & BBC Advanced BASIC Courses BBC 32K £10.50 each

Honeyfold, Bath Place, Barnet, London

Two courses, part of the Dr Watson series, comprise a book and a tape. They have the same author and are meant to be seen as stages in a single course, so much so that the books have common indexes and appendices. This is unfortunate for the purchaser of both, as they are paying for more than 40 duplicated pages.

The tapes contain copies of the programs used to emphasise the text, in their final working form and this might give you an idea of the type of books these are, i.e. made up of highly detailed program notes leading up to the finished product.

Having said that they are not really BBC specialist books, in that early part of the books could have been for any machine and doesn't really use the BBC's special features, I am particularly surprised by the way GOTO is introduced very early in the text and PROCedure very late. These are not the best books I have seen for the learner, I'm afraid.

D.C.

instructions	65%
ease of use	70%
graphics	N/A
value for money	50%

★★

Logo Graphics Interpreter Spectrum 48K £9.95

Kuma, Unit 12, Horseshoe Park, Horseshoe Rd, Pangbourne, Berks

A sort of primitive screen-designer plus poor man's Forth, and I'm not sure at which market it is aimed.

The on screen turtle (round cursor and direction pointer) is moved by entering commands, draw, reverse, jump, left, right, round, etc, followed by pixel length or angle, plus 'erase' on straight lines. Features are circles and ink change, in-built calculator and screen dump to printer.

You can define 20 complex commands, incorporating original commands, i.e. to draw a square (repeat 4, draw 60, right 90, continue, end) you can simply command Square. User commands mixed together with originals can form more complex user commands. Further commands allow limitation and changes of size. No SAVE SCREEN facility but you can BREAK into the BASIC written program and SAVE normally.

However, drawn lines have pixel gaps, there's no way to erase circles if you make a mistake, the jumping turtle leaves a space, and error-trapping is not perfect. I was advised 'out of screen' when trying to draw something too big but, instead of returning to 'command' sequence, I was requested to enter 'length'.

A bit pricey for limited usefulness.

D.C.

instructions	90%
ease of use	65%
display	75%
value for money	50%

★★★

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New utilities for the BBC and Spectrum are put through their paces by our experts

Supercode Spectrum £9.95

CP, 2 Glebe Rd, Uxbridge, Middx UB8 2RD

This program contains 100 machine code routines for use in your own programs. Initially they are linked, indexed and demonstrated by a BASIC program, which also gives details of the parameters which must be passed to them to tailor them to your specifications.

The variety is really stunning. The routines range from toolkits like compress, REMkill, renumber etc. to superior laser zaps, and a sound recording routine. Also included are at least 20 different ways of scrolling and colours, together with about a dozen different ways of protecting your program... and ON ERROR GOTO.. and ON BREAK GOTO... if I describe them all I'll run out of space!

This program provides the sort of graphic effects you just can't get from BASIC. If you are prepared to work hard with it, Supercode will help you achieve professional standards with no knowledge of machine code.

Just one word of warning. The program did crash when used with Microdrives connected, so follow the instructions for relocating the code carefully.

D.M.

instructions	100%
ease of use	100%
display	100%
value for money	90%

★★★★★

BBC/Electron Assembly Language Courses BBC 32K £12.50 each

Honeyfold, Bath Place, Barnet, London

Both part of the Dr Watson series, these texts deal with programming the 6502 microprocessor. As both machines have identical assemblers, as part of the BASIC, the books are very similar with only the minimum of changes.

In fact I am prepared to believe that they are also very similar to the books for the PET, VIC and CBM 64 and it is in this similarity that my main criticism is found.

Acorn machines have a very well documented operating system and you are advised, indeed forced if you want your program to run on all configurations, to use the facilities provided within the OS. These books have only one reference to the OS and are therefore almost useless in this respect. Further to this error they also insist on POKEing values to the screen in the early stages, and start off using decimal rather than hexadecimal values. This may seem a good idea to some but those battling with machine code are going to have to get used to hex so why not start that way? The tape contains useful but not remarkable utility programs.

D.C.

instructions	35%
ease of use	50%
graphics	N/A
value for money	20%

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